

MANUFACTURERS RECORD



**A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,
Mining, Contracting, Engineering, Building, and General
Business Interests of the South and Southwest**

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To the Congress and the Country

With the world on fire, with marauders and murderers at large and with our homes and our lives imperilled by organized ruthlessness and barbarism, there is but one task before the makers of laws at Washington in this hour, and that is immediate and effective measures of defense and offense, too.

Let Congress fully and immediately back up the President in his efforts to raise an army; let men of capacity be given the work of organizing the resources of the nation in such a manner as to get all the benefit of France and England's dearly bought experience, whether this affects present heads of departments or not.

Our resources are boundless, but the Government must set the example of complete preparedness, to the end that waste shall cease and our wealth in men and money and material become available with the least possible delay.

All that interferes with this is an abomination and a plague.

BALTIMORE, MAY 3, 1917

Bethlehem Steel Company

General Office—South Bethlehem, Pennsylvania

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THE REPUBLIC AS AN INSPIRATION.

THESE are big times. Great things are happening. In the tremendous pressure of events people generally, and especially the chief actors in the world drama, forget much that was done in times resembling these, at least in some degree, and the most apparent facts are disregarded because of the greater immediate importance of others temporarily prominent. For instance, has anyone stopped to think of the tremendous importance of the fact that France as a republic is doing what France as an empire could not do? For more than two years, much longer than the whole duration of the Franco-Prussian War of 1870 and 1871, she has driven and held the Germans back, and is now again driving and holding them back, notwithstanding that Germany, throughout forty-five years of training and discipline, prepared with careful plans to seize the whole of France from Alsace and Lorraine to the Atlantic and from the English Channel to the Mediterranean, backing up this illusion of conquest with the greatest army the world has ever seen and with a navy second to but one.

If the course of European events means anything, it means that the republic as a political institution for the government of mankind is stronger than the empire. Despite the thorough training of the German troops, their spirit is not that of the French soldiers, who fight for their country as if each man was defending his own home and fireside, as, indeed, they are, for we must accept the intent of German imperialism, shown in Belgium, and also in the parts of France recently relieved of it, that its purpose is to destroy, to blast, to make desolate and barren that which it cannot hold and enjoy. But shell-swept and fire-swept as are the towns and villages which the allied troops are reclaiming from the once triumphant legions of Kaiserism, they are still dear to Frenchmen, and the sight of shattered walls of ruined homes constitutes a stimulus to conflict which the Germans, with their wonderful astuteness in other ways, should have had too much sense to leave behind them. And when United States troops glimpse these ruins, as it now seems they soon will, they will realize with tenfold more force than ever before what the Germans who have been plotting, spying and scheming in this country would have done to us if they had but the opportunity. Realizing this, they will fight, not only as fresh troops do, with inspiring vigor and strength, but with the added fury of men who "see red," and who will, we may expect, make a record of determination and grim heroism that will remain forever upon the pages of history.

The participation of the United States in the war will be but one more demonstration of the truth that the republic is stronger than the empire to unite and inspire men in behalf of a Government. And the newly-declared Republic of Russia is advancing toward a similar goal.

A RINGING APPEAL FOR BROAD, EFFICIENT PATRIOTISM BY A FOREIGN-BORN AMERICAN.

FRANK BAACKES, vice-president of the American Steel & Wire Co., in speaking before the annual convention of American Hardware Manufacturers held recently at Houston, Tex., brought home to his hearers the vital necessity of this country turning its every effort toward efficiency, not alone in defensive and preparedness measures, but in business, whether along transportation and manufacturing lines or agricultural pursuits. Though German-born himself, Mr. Baackes makes it plain that he does not believe in "hyphenated" Americans, for his speech on Americanism and efficiency conveyed the thoughts of a patriotic captain of industry who is American through and through.

Out of this remarkable address we have excerpted the following:

"We are confronted at the present time with very intense political and economic conditions, and they are so intimately connected that they cannot be treated separately as to their consequences. Our political condition has been somewhat clarified by our entrance into this war, but our economic condition has become more intensified than ever.

"Previous to our entrance into this war we were confronted with one condition, and that was that we sold to the Allies what we thought we could spare. Now, becoming an ally of the Allies, where heretofore we were passive, it becomes today our absolute duty to see that the Allies, who are fighting for us, have everything this country can give them and everything they want, to the point of actually suffering in this country. Now, that is going to make a very acute situation, both in the necessities of life as well as the commodities of life. I hope that we all have honor enough to let the world know that we are not alone a money-making machine, but that we are also a red-blooded, fighting machine; that we propose to enter into this war with our own men, so that when the time comes and peace is declared, our flag will fly on that battlefield, and not only our American dollars be there, that nobody can see.

"The slogan of every money faction, of every merchant, must from now on be 'Allies-Government first, domestic trade second, and export third.' That will mean that this is a time to control the selfishness of our natures. I know that is a very hard thing to do, because it is inborn in every one of us. We must be satisfied, therefore, we must not crowd things; in other words, we must not endeavor to make any money out of our own war. We made a lot of money out of the European war; it was absolutely natural; it was only our right, both technically and morally—nobody can question that—but I question the wisdom to try to make that same amount of money out of our own crisis.

"I also do not believe that prices should be advanced in a time like this; I do not believe it is absolutely necessary; I do not believe in this policy of selling the government on the one hand at a very low price and then trying to tax the individual at an advanced price, thereby making the other fellow pay for your patriotism. Let us share this burden, which is overgreat; let us share it all alike."

Calling attention to the dangerous food situation confronting the country, a question that has been presented time and again by the MANUFACTURERS RECORD through warnings on this subject of food shortage for many months past, Mr. Baackes said:

"A very serious condition is confronting this country, and that is our food question. The Department of Agriculture in Washington knew last fall

just how many bushels of wheat, corn, potatoes and everything else we raised. That Department of Agriculture knew exactly how much we had exported, and that Department knew every month just what the conditions of our growing crop was, and why do they dilly-dally when that is all known, and why do we enter this conflict so little prepared as to the vital things, which are foodstuffs, when they have already been exhausted, and why should there be at this time an appeal to the farmer and everybody else to raise crops? Why not let this same Department of Agriculture, which has all the information, send it to every citizen and every household, just the same as we get from our Senators and Congressmen garden seeds every once in a while? If they can afford to send garden seed, they can afford to send us in this crisis information that is of value to this country, so that this country can meet this crisis and withstand it with the least discomfort to itself.

"That much for the present; but we must not live alone in the present; we also have got to look to the future—to what we must do to hold our prosperity, and that means industrial preparedness, because industry is the life and backbone of a nation, and the greatest boon to its people. That means that our Government henceforth must become absolutely linked with business. This country must become one vast business organization. Unfortunately, however, our legislative bodies, both city, State and Federal, are very inefficient; they are too much political and not enough national; they are eternally playing party politics; they are eternally wasting their time on personal business. We business men in many instances absolutely pay no attention to politics. We do not even vote, and in many instances we do not even know the candidate. Now, if you were to run your business in the same way in the selection of your foremen, your superintendent, your manager—and your representative that you send to the State Legislature occupies the same position, for you expect him to look after your interests—if you pay no more attention to the selection of your men in your business than that, then you cannot get anywhere. The condition that has confronted us today is really what we deserve and merit by our own lack of interest.

"Another thing we need for the future is an amendment or an abolishment of our Sherman anti-trust law—all the trust laws—and I insist and demand that for this reason: If co-operation, which is desired today by the Government and by the people, is an absolute necessity in case of war, it must be of great benefit in time of peace.

"There is another thing we need, and that relates to our railroads. Our railroads have been legislated to death. Our railroads need the support of our Government and of trade, and they have not got it. I am somewhat surprised when I see that every time the railroads ask for an increase in freight rates, every merchant, manufacturer and association combats them. We are suffering today because these railroads have not been enabled to raise their freight rates. We are suffering today from that because the railroads have not the necessary equipment, and surely if you could not make any money in your business and did not see the way of paying a satisfactory dividend to the stockholders, you would not invest any more money. We are not all so unselfish as to invest our money there, so let us help the railroads get the proper recognition so they can develop.

"Another thing we need in the future for our prosperity is a proper tariff. As successful business men and as thinking men we have got to look into the future, and I tell you this country needs a proper protective tariff, not because these indus-

tries of ours are infants—they can take care of themselves—but just because we are used to a high standard of living in this country, and we want the people in this country to have the best, not alone today, but for all time, and we want this high standard of living to continue. We have got to have a protective tariff, or otherwise we will be obliged to reduce wages. Do not forget that these nations at war will rise out of this conflict greater and stronger than ever. That has been the history of every war. Every man and woman in those countries is taught to work. All the European nations are mobilized, the men and the women and everybody, for the purpose of conducting this war. They may become so exhausted and the necessities may be so severe that these nations will realize that they will have to stay mobilized after the war in order to resurrect themselves. Now, just imagine a mobilization of that kind, when every man and woman is trained to work with an economy we have no appreciation of, with an efficiency that we do not know. What chance will we have with our inefficiency, with our extravagance, with our indulgence? Why, we are putty alongside of the European today.

"Another thing that is needed in this country in the future is export trade. We have had a taste of it, and we like it; but in order to have that export trade we need also governmental assistance, and we need it quickly; and we must not fool ourselves just because we are enjoying a large export trade now. Unless we prepare and fortify our manufacturers with the necessary instrument to do this export trade, we will not have any, and the first thing we need is the passage of the Federal Webb bill, which legalizes co-operation. The Webb bill allows combinations, and we may as well realize that the European countries in the deathly struggle are watching their economical condition. They are prepared to do the utmost, and why should we not do it here?

"Another thing, we have got to have a merchant marine. I am glad to note that action has been taken, that a thousand boats are going to be built, and some newspapers have said that we are going to build one every three days. That, unfortunately, is the temperament of the American people. These ships cannot be built one in three days. It takes from one month to four months to build one of those ships. We have not the timber; the timber is still standing in the woods. We knew that we needed this merchant marine two and a half years ago. This is not the time to criticize, still I cannot refrain from saying that the people in charge of that affair did not attend to their business or we would have a merchant marine today that would be of great help to the Allies.

"We need proper banking facilities. We are only children in this country in this matter, and we need to have branches in every part of the world. We must be able to extend credit just the same as the English and the Germans and the Belgians, who had this world's market.

"Don't fool yourselves about this export trade—that when this war is over all the American has to do, or the American manufacturer has to do, is to go into the market and say, 'I am an American manufacturer, and this is my product at my price; give me an order.' That is based on the theory that when this war is over the people who are now at war will not do business with each other. Commerce knows no nationality, knows no religion, knows no hatred. Commerce knows only three principles—price, service and quality, and wherever they are, that is where the business will go.

"Another thing that I must talk about, and that is this militarism. Militarism seems to be in a horrid state in this country. Militarism in my vocabulary spells efficiency, and this country will have to resort to conscription. I want a system of military training in this country that will take the millionaire's boy as well as the man in a ditch. I want a system that will take care of the 'slackers.' We have got to have a navy. We not only need an army today, but we should have a military system that compels every young man at a certain age to be either six months or a year in an army. When he goes into that he learns something that he had

forgotten, except in the last two years, and that is to respect the flag.

"In conclusion, I also hope that the day is past when American citizens from choice will be called 'hyphenated' Americans, because, gentlemen, every man knows there are no hyphenated Americans, and there never have been any. The Germans live in Germany, the Russians in Russia, the English in England, the Italians in Italy, and when those people come over here from choice and swear allegiance to that flag, they must be American citizens.

"I mean to say that when they do that they are just as much identified with this country as the native sons by chance. Surely, this country has not all been built up by native sons. These adopted sons that have come to this country have done their share. Many of them are captains of industry. Many of them are merchant princes; many of them are big bankers, and they have all done their share, even the man that does no more than shovel in the ditch. He is doing his share, and therefore must be treated as such.

"I am German born; I am proud of it; I am proud of my father and mother. God forgive the man or woman that will forget the place where they were born, no matter how low, no matter how humble. Naturally they have a sentiment, but in a crisis like this there should be no sentiment; there should only be the adopted flag. Therefore, let us listen to the message from Washington—a citizen by birth and choice of a common country, that country has a right to concentrate your attention."

PATRIOTIC WORK OF COLLEGES.

THE MANUFACTURERS RECORD takes pleasure in printing the subjoined appeal from J. Russell Smith of the University of Pennsylvania.

We deem it a duty to iterate and reiterate the call that we have been sounding through our columns since last fall, when the shortage in the nation's crops was definitely known, for the South and the country to raise more food and to utilize every available place for doing so.

The colleges of the land are doing great work in this crisis, and it is a splendid idea in giving college credits to students who are being sent to farms where there is land and equipment sufficient to make this additional help effective in increasing the output. There is no greater work that these young men could do for their country, and it is entirely proper and right that the time lost from their studies should, when spent in this cause, be counted as a credit to them in their school course.

EAT LESS, GROW MORE OR LOSE THE WAR.

Hoover Appeals to the People of America.

Herbert C. Hoover, the great American success as chairman of the American Commission for Relief in Belgium, did his work so well that the people say he is more efficient than the Germans themselves. President Wilson has called him home to be head of the American Food Board. He is still in London, but he sends a call from there to the American people to get ready for starvation. This call every patriotic American should hear—eater, farmer and college student alike. The man who plants another acre of corn this spring, or the student who helps him cultivate it, is surely a patriot meeting our greatest need.

London, April 21.—The first and most important duty of the American people to their allies is to economize on foodstuffs. This is the appeal of Herbert C. Hoover. "If we do not do it," he declared today to the Associated Press, "we stand a grave chance of losing the war, because our allies cannot fight without food. Our enemies are calculating that America will fail in this and our allies will need to give in. America can upset these calculations."

Mr. Hoover's observations were made after three weeks' consultation with members of the British, French and Italian cabinets. He also investigated the food and shipping situation and plans for American co-operation. The net result he arrived at was that between now and the next harvest it would require a supreme effort by the American people.

Of "Utmost Gravity."

"I feel it my duty to emphasize," Mr. Hoover continued, "that the food situation is one of the utmost gravity, which, unless it is solved, may possibly result in the collapse of everything we hold dear in civilization."

"The total stock of food today available in the allied world is simply not sufficient to last till September if America continues its present rate of consumption. We are now face to face with the result of last year's poor harvest, the diversion of man power from agriculture all

over the world, the unavailing efforts of the European women to plant available fields fully, the isolation of Russia, the sinking of food ships and many other causes.

"England, France and Italy are reducing consumption by drastic steps, but even with all this reduction they must have from us during the next three months more than twice as much food as we should have exported normally or than we can send if we consume as usual.

"The only hope of providing the deficiency is by the elimination of waste and actual and rigorous self-sacrifice on the part of the American people.

What Allies Must Have.

"To carry the Allies over until the next harvest we must reduce our wheat consumption 30 per cent. This means that every man, woman and child must forego at least one loaf of wheat bread per week and eat something else or less generously.

"More than 70 per cent. of American homes already are places of thrift, economy and a clean plate. In the remaining 30 per cent. no one can deny that there is prodigal extravagance and waste. Temperance in entertainment, food and drink is likely to become no longer an ethical question among this class, but a grim imposition of war.

World Will Face Starvation.

"We must also plant everything and everywhere it will grow, or next year this time the food problem will be absolutely unsolvable and the world will face absolute starvation.

"I do not believe there will be any necessity to rigidly ration the American people, for if democracy is of any value as a spiritual and political faith the personal initiative and willingness to volunteer self-sacrifice of every member of the greatest democracy in the world will be ample to solve the problem."

The College Student Answers the Call.

As an answer to this call the University of Pennsylvania is forming its students into Food Growers' Battalions, Columbia University, New York, is doing the same thing. These students are sent to farms where there is land and equipment sufficient to make them effective in increasing acreage. These universities are giving college credit for this work, which is the most vital thing in the world today. There is no danger of low prices on this crop. Plant more and write to your nearest college or high school asking for help to make the crop. The Department of Agriculture at Washington has already called on them to help, as the Universities of Pennsylvania and Columbia are doing.

J. RUSSELL SMITH,
Director Food Growers' Battalions,
University of Pennsylvania.

SUBSTITUTES FOR TIN CANS URGED FOR PRESENT EMERGENCY.

THE serious shortage in the supply of tin cans for the coming packing season is arousing the interest of the country and has called for consideration on the part of the Department of Commerce at Washington. Coupled with unusual demands for tin during the last two or three years, there has been difficulty in getting supplies from previous sources. Practically all the world's supply of tin is mined in the Straits Settlements and Bolivia. For many years European firms have handled the output of both countries and have sold the refined product to tin-plate manufacturers in Europe and the United States. Although a smelting plant has been erected in New Jersey, ore for the operation of which is now brought here direct from Bolivia, the manufacturers of tin cans are confronted with a demand greater by 40 per cent. than the probable supply, according to an announcement made by Secretary Redfield.

The Department of Commerce has issued a bulletin suggesting the conservation of the tin-plate supply, and to that end is pointing out the necessity for using substitutes for tin containers, so that the tin cans may be diverted as largely as possible to the use of packers of perishable foods. Manufacturers are urged as a patriotic duty to use substitutes for tin wherever it is feasible to do so. It is suggested that in packing tobacco, coffee, tea, spices, baking powder, soap powder, white lead, powdered paints, syrup, cocoa, cheese, lard, butter and peanut butter, etc., substitutes for tin be freely used, in view of the present emergency.

The Department of Commerce offers to co-operate with the manufacturers in suggesting to inquirers such substitutes as may be regarded as practicable now and until at least the present shortage in tin plate and tin cans has been overcome.

GOVERNMENT SHOULD REMOVE THE DISCRIMINATIVE, UNJUST TAX ON OLEOMARGARINE.

THE South produces in an average crop in the neighborhood of 1,500,000,000 pounds of cottonseed oil. Through the utilization of peanuts and soy beans by cottonseed-oil mills the aggregate output of these mills over the cottonseed oil produced is being greatly increased and can be almost indefinitely expanded.

Here is a source of food supply which should be given adequate recognition at the present time by the National Government. These vegetable oils, which are about equal to the total production of butter in the United States, enter into the manufacture of oleomargarine. These oils are produced under conditions far more sanitary than is most of the milk on the farms of this country. The oleomargarine into which these oils or fats enter is made under conditions infinitely more sanitary and cleanly than practically all of the butter that is made on the farms of the country. As compared with the average milking and general dairying conditions on the farms, the production of oleomargarine is as day to night. Nevertheless, this product, for which the raw material of the South in the shape of oils is so largely responsible, is heavily taxed by the Government in the interest of the creameries and the livestock interests. In other words, the National Government is deliberately discouraging the development of this foodstuff in the South in order to cater to the claims of the cattle growers of other sections. It is a rank injustice to the cotton interests of the South, as well as to the consumers of oleomargarine.

There is no more reason why oleomargarine should be taxed than there is why butter should be taxed. To millions of people in this country and abroad oleomargarine is as desirable as butter, and there is no question of the fact that in eating it they are consuming a cleaner product than much of the butter we get, and one equally as wholesome and free from many of the dangers which enter into butter-making. The man who visits the average farm and knows the conditions under which the cows are milked and the butter produced will soon learn to shut his eyes and close his brain to thoughts of uncleanness, or else he will not care much for the eating of butter.

The conditions in the production of oleomargarine, of cottonseed, or of vegetable oils or fats, are entirely different. In the latter, sanitary conditions exist as against the insanitary conditions on the average farm or in the average barnyard where the cattle are milked.

While the National Government is making strenuous efforts to increase the supply of foodstuffs and to lessen the cost to the consumer, it behooves the Administration to note the situation in regard to the burden which cottonseed and other vegetable oils of the South have to carry in comparison with the butter industry.

If the tax were removed from oleomargarine there would be an instant great increase in the demand for cottonseed oil, peanut oil and soy-bean oil, and the production of these staples would be largely increased, to the advantage of consumers throughout the country. The prejudice against oleomargarine, which in early days was vigorously worked up by the creamery interests of the West, should not be permitted to stand in the way of the larger utilization of vegetable oils as the basis of artificial butter, since this artificial butter can be produced at a lower cost and under more wholesome conditions than the bulk of the butter produced on American farms.

The growers of cottonseed and soy beans and peanuts in the South have as much right to be heard as the dairying interests of the West. Moreover, the consumer has as much right to demand that he be permitted to buy oleomargarine without the burden of unjust taxation put on for the purpose of maintaining the price of butter. In the present acute food shortage situation it behooves the South to bring this condition vigorously before the people of the entire country and demand of Congress the passage of a bill which will put the cottonseed-oil industry on an equality with that of the milk and butter business of other sections.

PROHIBIT LIQUOR—SAVE FOOD.

It is doubtful if there is any movement connected with our war measures which has received more nation-wide endorsement than that to prohibit the manufacture of intoxicating liquors or beverages during the war period. This movement was inaugurated not only for the purpose of releasing the many millions of bushels of grain that annually enter into the manufacture of alcoholic liquors and beverages, but also for the beneficial effect on the soldiers and sailors who would be called upon to fight our battles.

This nation is facing a crisis in the grain supply that but few people seem to realize, and it is vitally necessary that steps should be taken to conserve every bushel of grain possible, so that it may be used for the greatest benefit of our people and our allies.

From statistics carefully gathered it has been estimated that the war prohibition measure would save enough grain alone to make a loaf of bread a day for each of 11,000,000 fighting men. This is in itself a simple but convincing argument of the vast benefits that would accrue from putting this grain into the use of furnishing food, when it is going to be so badly needed.

Bearing upon this measure, the following interesting statistics and facts have been compiled by T. M. Carver, Edmund E. Day, William Z. Ripley, Edwin T. Gay, professors in the Department of Economics, Harvard University, and Irving Fisher, professor of Political Economy, Yale University:

According to the report of the Commissioner of Internal Revenue for the year ended June 30, 1916 (page 138), there were used during that year for the production of distilled spirits in the United States the following materials:

	Bushels.
Corn	33,069,542
Rye	3,116,612
Malt	4,480,588
Wheat	3,373
Barley	148
Oats	9,807
Other materials.....	68,822
Molasses	152,142,232 (gallons)

Omitting wheat, oats, barley and "other materials," and reducing corn, rye, malt and molasses to pounds, we get a total of 3,693,911,916 pounds of grain and molasses.

The census for 1900, Vol. 9, page 602, gives the following figures as to materials used in the manufacture of fermented liquors:

Corn	483,998,584 pounds
Malt	36,385,365 bushels
Barley	11,232,599 bushels
This amounts to a total of.....	2,260,266,146 pounds

These seem to be the latest positive figures available. The materials used in 1916 may be estimated as follows, though there is a possible margin of error. The production of fermented liquors for the year 1900 was 38,664,584 barrels. By 1916 it had risen to 58,633,624 barrels (see report of Commissioner of Internal Revenue for 1916, p. 145). The production increased 51.6 per cent. Assuming an increase of at least 50 per cent. in the materials used, we get 3,390,399,219 pounds.

Combining the figures for the manufacture of fermented liquors and distilled spirits, we get a total of 6,994,311,135 pounds of grain and molasses.

This omits all minor ingredients and says nothing about the fruit and glucose used in the production of various other alcoholic beverages.

In a time of food shortage, when conservation of foodstuffs is an important public question, the seven billion pounds (7,000,000,000) of food materials which are used in these industries form an item which is worth considering.

These statistics were reviewed by Walter B. Cannon, professor of physiology, Harvard University; Percy G. Stiles, assistant professor of physiology, Harvard University and Irving Fisher, professor of Political Economy, Yale University, who state:

We have reviewed the statistics submitted in regard to the 7,000,000,000 pounds of foodstuffs used in the manufacture of malt and distilled liquors in the United States. It is probable that as much as one-sixth of the total may be necessary for the production of denatured alcohol. At a low estimate of its calorific or fuel value the remaining five-sixths would supply the energy requirement of 7,000,000 men for a year.

These facts speak more eloquently than any words as to the importance of diverting the grain now being used in the manufacture of alcoholic drinks to the pressing need of food supplies. From every section of the country leaders in finance and manufacture, labor men, physicians, educators, and those engaged in all branches of public and private life have unhesitatingly supported this movement.

It has been said that the Government cannot

afford to take action on this war prohibition measure because it needs the large revenues coming from it in order to meet the tremendous war expenditures. When we consider the increased price which the people of this country will have to pay for bread, to say nothing of the vast amount that will be wasted in the consumption of these alcoholic drinks, it is a question as to whether there would be any actual net revenue derived from the taxes on alcoholic drinks. Viewing this question, therefore, from every standpoint of public good, and our vital needs, there is not presented a single argument of weight against the war prohibition measure, while there are many sound, economic and beneficial reasons in its favor.

In these times it is the duty of our national legislators to the people to conserve wherever possible the country's food supply, and where there is found such a tremendous wastage in the manufacture of products not needed, it is their duty to stop this wastage and allow the grain to be diverted to food purposes.

WHY NOT EAT MORE RICE?

THE great increase in rice production in Arkansas, which has grown from nothing a few years ago to more than 6,000,000 bushels in 1916, is related in correspondence from Little Rock, published in this week's issue of the MANUFACTURERS RECORD. This recalls the fact that of all the grain crops of the country last year, rice was the only one in which there was no shortage. The latest statistics place the total rice crop of the United States in 1916 at 40,702,000 bushels, against 28,947,000 bushels of 1915, and 25,265,600 bushels for the five-year average of 1911 to 1915, inclusive. It is also a fact of interest at this time of world shortage in foods, and consequently enormous increase of prices, that prices for rice have increased but slightly over those of ordinary years. It is possible to greatly increase the production of rice, particularly in the States of Louisiana, Texas and Arkansas, where the principal crop of the country is now raised, and it would be a timely move on the part of individuals as well as organizations to bring about a more general use of rice as food.

In view of the fact that in countries of Europe and Asia rice is universally a staple food and is found to admirably meet bodily requirements, it is somewhat surprising that rice is not a more popular food among the people of the United States generally. Rice contains more nutritive matter than wheat or any other grain, nearly four times as much as potatoes, and almost twice as much as fat beef. Rice is an ideal food for the invalid, and is equally valuable as a muscle builder for those engaged in hard work and who are in perfect health.

An amazing revelation of the Russo-Japanese war was the health and endurance of the Japanese soldiery, whose main diet has always been rice. At the time of the Boxer uprising in China it was found that the Japanese could outmarch all the armies of other countries. The strength and endurance of the jinrikisha boys of Japan are a constant source of surprise to the traveler in that country, and it is a common saying among resident American women of Japan, "Oh! I could do that if I had a Japanese back," referring to the strength of loins possessed by the native women.

Outside of Louisiana, where the Creole cooks excel all others of America in the preparation of rice dishes, there has been no adequate attempt in this country as yet to fully develop the possibilities of rice as a foodstuff. When the upland cultivation of rice on an extensive scale was in its infancy in Louisiana some twenty-five years ago, Mr. S. F. H. Morse, at that time in charge of the Southern Pacific Railroad's interests in the Southwest, gave considerable study to the problem of increasing rice consumption. He made an investigation as to the various forms in which rice was prepared by the Creole cooks of Louisiana and discovered that there were more than 250 different ways in which rice could be prepared for table uses.

With wheat, potatoes, meats and practically every article of foodstuffs mounting higher and higher in price all the time, and with the prospect that prices will not be reduced until at least some

time after the close of the war, there is no other direction in which activities in domestic economics can be better turned than toward a proper appreciation of the possibilities of rice as a staple food for the household.

The United States Department of Agriculture has given much attention to the subject, and has issued a number of helpful bulletins for the benefit of those who need education as to the importance and value of rice as a staple article of diet. By means of these bulletins and through other information obtainable it would be possible for the country at large to acquire a better understanding of the advantage to the individual and to the entire nation that would come from a more universal knowledge and appreciation of the possibilities of rice as a valuable food product.

THE MAN WHO SUCCEEDS MUST "OUT-THINK HIS JOB" AND BE READY FOR THE NEXT JOB.

SOME years ago a young man, apparently of mediocre ability, and without any strong friends in financial or business circles, and therefore without any "pull," secured a clerical position in a large financial institution. Not many years passed before, upon the death of the head of this big financial concern, this young man was elected to succeed him. Having known him since early youth, and wondering how it happened that he had been advanced to a position of such responsibility over the heads of many others who had been in the institution long before him, the writer asked the reason for his success, and, in brief, his reply was about as follows:

"I made it my aim to learn everything I possibly could about every phase of the company's business. There were many times when some of the book-keepers or clerks wanted to get away for a baseball or football game, or for some other amusement, and it fell to my lot on such occasions to do their work. I did not grumble, because I realized that every time I was doing somebody else's work I was learning more about the business than anyone else. While they were playing I was working, for after doing my own work I had to do theirs. I was determined to be prepared for any position which required a knowledge of the business, not knowing when I might have an opportunity to use this information. When the head of the concern, who had for many years had the exclusive management of many of its large operations, and especially of its loans on collaterals, died suddenly, I knew certain loans, amply protected at the time, but about which there might be some question, in view of the rumored difficulties of a big railroad. I went immediately to the directors and explained these facts. They authorized me, by reason of the knowledge that I had gained about these loans and the securities, to undertake their collection or their protection by additional collateral. I was able to do this because of the knowledge I had gained in always standing ready to do the work of any man in the place who wanted to get off for baseball or other amusements. At a meeting of the directors following the death of the head of the concern to elect his successor, it happened that they came to the conclusion that I knew more about the details of the business than anyone else in the institution, and for that reason I was elected his successor."

The man who made these statements had no commanding personality, physical or from any other point of view. He was simply a plain young man of fair education, without any backing anywhere to secure his advancement. But while others were playing he was fitting himself for anything that might develop in the future. He determined to be ready for any other job in the concern that might open, probably never, however, imagining that the time would come when he would be the head of the concern.

The man who wants to succeed must do as this man did. He must be ready for the next job before the job is ready for him. There are thousands of young men never quite satisfied with what they are doing or with their pay, but who are making no effort by a thorough study of all phases of the business to be ready for the next job. They are looking for advancement for which they are not prepared, and they are dissatisfied because advancement does not come. The world is made up of young men of

this kind. They become dissatisfied because of lack of success, when the lack of success is due wholly to themselves. When they see someone else advanced they think it is because of a "pull" or personal preference, or for some other reason which they are always ready to imagine, when the real truth of the matter is that they have failed to prepare themselves for the next job. They have, perchance, looked after the work that they are doing fairly well, but they have learned nothing else about the business, and are not prepared to handle any other feature of the business than the particular job which they hold. Some very striking statements along these lines are made in a recent book by Charles M. Schwab, entitled "Succeeding With What You Have." If Mr. Schwab had done nothing else for the good of young men than the writing of this book, small and simple as it is, he would have rendered a service to humanity. In a study of the facts which he presents, every man, young or old, can find a lesson of interest, and some will catch an inspiration to do larger things. In the chapter, "Thinking Beyond Your Job," Mr. Schwab said:

When old Captain Bill Jones, perhaps the greatest leader of men the steel business has ever known, had charge of the Braddock plant for Mr. Carnegie, a call came for a specially capable young man to handle an important piece of engineering at Scotia.

Captain Bill knew men. He picked high-grade assistants with marvelous surety.

"Which one of your draftsmen shall we send up to Scotia?" he asked a superintendent.

"Why, any of them will fill the bill, Captain."

"But there must be one more capable than the others," commented Captain Bill. "Who is he?"

"I don't know," and the superintendent shook his head. "They are all bright, hustling youngsters."

Captain Bill stood in thought as his keen eyes ran down the red lines of furnaces. At last he said: "Tell every man to stick on the job until seven o'clock. I'll pick out Scotia's chief for you."

The order was a surprise. It was the slack season, when the draftsmen were not pressed to get through their work in regular hours. But they all kept on cheerfully.

As seven o'clock drew near Captain Bill noticed that the men kept looking up to see how much more time they had to put in. All save one. Over in the corner a young man was so absorbed that he seemed to have forgotten there was a clock in the room. When the hour finally came the others hustled for their coats and hats. This chap was still bending over his desk. *He was the man whom Captain Bill sent up to Scotia.* One hardly needs to add that later he became a most valued engineer, a high-salaried man.

For thirty-six years I have been moving among workmen in what is now the biggest branch of American industry, the steel business. In that time it has been my good fortune to watch most of the present leaders rise from the ranks, ascend step by step to places of power. These men, I am convinced, are not natural prodigies. *They won out by using normal brains to think beyond their manifest daily duty.*

American industry is spilling over with men who started life even with the leaders, with brains just as big, with hands quite as capable. And yet one man emerges from the mass, rises sheer above his fellows, and the rest remain.

The men who miss success have two general alibis: "I'm not a genius" is one; the other, "There aren't the opportunities today there used to be."

Neither excuse holds. The first is beside the point; the second is altogether wrong.

"The thing that most people call 'genius' I do not believe in. That is, I am sure that few successful men are so-called 'natural geniuses.'"

There is not a man in power at our Bethlehem steel works today who did not begin at the bottom and work his way up, round by round, simply by using his head and his hands a little more freely and a little more effectively than the men beside him. Eugene Grace, president of Bethlehem, worked in the yard when I first knew him. Mr. Snyder was a stenographer, Mr. Mathews a draftsman. The fifteen men in direct charge of the plants were selected not because of some startling stroke of genius, but because day in and day out they were doing little unusual things—thinking beyond their jobs.

When I took over the Bethlehem works I decided to train up its managers as Mr. Carnegie trained his "boys." So I watched the men who were already there and picked out a dozen. This selection took months. Then I set out to build an organization in which we should be bound together in harmony and kindly co-operation. I encouraged my managers to study iron and steel, markets and men. I gave them all small salaries, but instituted a system whereby each man would share directly in the profits for which he himself was responsible. Every one of those boys "came through." They are wealthy men today; all are directors of the company, some are directors of the corporation.

Most talk about "super-genius" is nonsense. I have found that when "stars" drop out, successors are usually at hand to fill their places, and the successors are merely men who have learned by application and self-discipline to get full production from an average, normal brain.

The inventor, the man with a unique, specialized talent, is the only real super-genius. But he is so rare that he needs no consideration here.

I have always felt that the surest way to qualify for the job just ahead is to work a little harder than anyone else on the job one is holding down. One of the most successful men I have known never carried a watch until he began to earn ten thousand dollars a year. Before that he had managed with a nickel alarm clock in his bedroom, which he never forgot to wind. Young men may enjoy dropping their work at five or six o'clock and slipping into a dress suit for an evening of pleasure; but the habit has certain drawbacks. I happen to know several able-bodied gentlemen who got it so completely that now they are spending all their time, days as well as evenings, in dress suits, serving food in fashionable restaurants to men who did not get the dress-suit habit until somewhat later in life.

Recently we have heard much about investments. To my mind, the best investment a young man starting out in business can possibly make is to give all his time, all his energies, to work—just plain, hard work. After a man's position is assured he can indulge in pleasure if he wishes. He will have lost nothing by waiting—and gained much. He will have made money enough really to afford to spend some, and he will know that he has done his duty by himself and by the world.

The man who has done his best has done everything. The man who has done less than his best has done nothing.

Nothing is more fatal to success than taking one's job as a matter of course. If more persons would get so enthused over their day's work that someone would have to remind them to go out to lunch, there would be more happiness in the world and less indigestion. If you must be a glutton, be a glutton for work. A trained ear can do tremendous business in the obstruction line. Sometimes it listens so intently for the toot of the quitting whistle that it quite loses the sense of spoken orders.

I have yet to hear an instance where misfortune hit a man because he worked overtime. I know lots of instances where it hit men who did not. Misfortune has many cloaks. Much more serious than physical injury is the slow, relentless blight that brings standstill, lack of advancement, final failure.

The man who fails to give fair service during the hours for which he is paid is dishonest. The man who is not willing to give more than this is foolish.

In the modern business world "pull" is losing its power. "Soft snaps" have been sponged off the slate. In most big companies a thousand stockholders stand guard over the cashier's window where formerly there were ten. The president's son starts at scratch. Achievement is the only test. The fellow who does the most is going to get the most pay, provided he shows equal intelligence.

Captains of industry are not hunting money. America is heavy with it. They are seeking brains—specialized brains—and faithful, loyal service. Brains are needed to carry out the plans of those who furnish the capital.

The man who attracts attention is the man who is thinking all the time and expressing himself in little ways. It is not the man who tries to dazzle his employer by doing the theatrical, the spectacular. The man who attempts this is bound to fail.

The paragraphs which we have quoted from Mr. Schwab are typical of his whole story. He tells of other men in the iron and steel business who have developed into great leaders and capitalists by exactly the same methods which made possible the success of Mr. Schwab himself, and of those whose names he mentions. Through the whole book run these homely but illuminating facts. He refers in one case to the remarkable advance of Mr. Eugene Grace, the president of the Bethlehem Company, as having had ability to "outthink his job," and who has risen within a few years from the position of engineer on a switching engine, at a small salary, to the presidency of the Bethlehem Company, earning a big fortune every year. Of Mr. Grace, Mr. Schwab makes the following interesting statement:

It is a pleasure to do business with Grace. His splendid enthusiasm goes hand in hand with absolute integrity. If he makes a statement you can bet a million on it. You know he is right. This integrity has gone far toward winning him the position he holds today.

Of how many young men can it be said that when he makes a statement you can "absolutely depend upon it?"

Many young men, thoroughly honest and truthful in intention, do not go to the bottom of things and get the last final fact before they make a statement. They make statements which they think are correct, but you cannot absolutely depend upon them, because, unlike Mr. Grace, you do not know that they are absolutely right, for experience has proven that they are often wrong, not from any wilful intention to be wrong, but from what might be called a slipshod way of doing things and making statements before going to the very bottom of the matter and never having to be called to account for having given erroneous information.

If a man wants to succeed, let him "outthink his job" and be ready for the next job even before it is ready for him.

"WHAT GREAT BRITAIN IS DOING."

SOME idea of the gigantic task of handling the multiplicity of details and problems which confronted the British Empire upon the declaration of war in August, 1914, and how each of these problems was solved to an extent that before the war would have seemed impossible of solution, is outlined by Sydney Brooks in the March number of the Geographic Magazine.

Mr. Brooks states that Great Britain, in this immeasurable cataclysm, stands as the axle on which all else depends. First is her naval power, without which Germany would have overrun Europe; secondly, her wealth, which enabled her to be the financial backer of some of her less fortunate allies; thirdly, her industrial resources, the rapidity of development of which has amazed the world; and fourthly, it is the silent determination in the national character which in two and a half years has converted an unarmed, commercial and sport-loving nation into a military power of the first rank.

Little is known generally of England's intelligence service, including the war-born Censorship Department, but they have been of inestimable value to the navy and army. They have been the means of saving thousands of lives and millions in property, not to speak of the service rendered to the United States and other countries in helping to forestall acts of German spies that would have led to internal trouble in those countries and possibly international complications. What these departments do not find out about the moves of the Allies' enemies is negligible.

Another thing that the public knows little about is information regarding the activity of the English flying corps and submarines. There are at least a dozen of England's flying men whose records in bringing down enemy machines would compare favorably with those of the widely-heralded German champions, Immelman and Boelcke.

British submarines have accomplished remarkable deeds in the Dardanelles, in the Sea of Marmora and in the Baltic, though they are less known than the exploits of the German U-boats, and it must be remembered that the Germans have something like a hundred chances to the Allies' one, because the Allies' vessels cover the seas. When the Deutschland appeared at Baltimore, what a stir it created! What a wonderful exploit for a submarine to cross the ocean! Few people knew that before this, when the war was only two or three months old, not one submarine, but ten British submarines crossed the Atlantic Ocean from Halifax to the British Isles—the first submarines in naval history to make the journey under their own power.

Similarly, while the English publish a list of the vessels sunk by enemy submarines, not one word is said about the number of German U-boats destroyed or captured—a measure of secrecy that is apparent for obvious reasons.

Notwithstanding the Prussians sink one in every hundred ships that enter or leave the British ports, both imports and exports of that country are steadily increasing.

Let us see what the English Navy has accomplished. Not only has it kept the German fleet practically bottled up, but it made it possible to land some 2,000,000 men in continental Europe, equipped with every requirement for making war.

The Belgian army has been re-armed and re-equipped; the Serbian forces have similarly been rescued and remade; Russia remunitioned; Italy has been enabled to overcome a natural deficiency; and France, in spite of the loss of some of her greatest industrial districts, is still a great manufacturing nation because of England's ability to keep her supplied with raw materials as well as finished products.

By the aid of the British fleet successful campaigns have been conducted simultaneously in Egypt, East Africa, the Cameroons, Southwest Africa, the Balkans and the Pacific. Russian troops are fighting in France and around Saloniki, thanks to the British fleet.

By the hundreds of thousands British subjects have safely traveled from Canada, Australia and all over the world to the aid of the mother country. The rally of British subjects, of every color and in

every clime, to the colors has surpassed anything of the kind in history and has caused the outside world to marvel.

By no means of less importance is the part the English Navy played in successfully carrying on an enormous volume of trade between the United States and Great Britain and her allies and all that the Allies import from the neutral world.

So much for the workings of the naval and military side of the war. There are other and equally important facts contributing to the arch of preparedness—banking, credit and industrial preparedness and all that implies in waging a successful modern war. On this Mr. Brooks writes:

"But sea power is not the only, though it is by far the greatest, of the contributions that make Great Britain the mainstay of the Alliance. We are its bankers as well as its guardians on the sea. By now we must have advanced to our allies not less than \$4,000,000,000. Virtually we have taken on our shoulders the responsibility for the credit of the Alliance abroad.

"And at the same time that we are rendering this service we are spending more in a month than the United States Government, not by any means the most economical in the world, has been compelled to spend in the whole of the last year; our weekly outlay averages some \$200,000,000; we have raised on credit over \$25,000,000,000, or about five times the generally accepted estimate of the cost of the entire Civil War; our yearly revenue, about four-fifths of which is raised by direct taxation—there are many men in Great Britain at this moment who are paying out to the State more than half their income—amounts to some \$2,500,000,000. * * * I should judge that by now the British people must have subscribed for their own sufferers by the war and for their allies at least \$500,000,000.

"But besides placing our purses and our fleet at the service of the Allies, we are also its main arsenal and workshop. To Great Britain all who are fighting with her turn as to an inexhaustible treasure-house, and rarely turn in vain. Is it ships, or provisions, or clothing, or raw material, or coal, or guns, or shells, or any other item in the endless catalogue of war? At once and unhesitatingly, for whatever they may happen to need, the Allies with one accord come to us, and it is our proud privilege to satisfy, as far as we can, every one of their demands.

"I am sure that in this country there is not much more than a very hazy conception of the industrial revolution that has been wrought by the war in Great Britain. It is not merely that we have scrapped old machinery with a more than American ruthlessness. It is not merely that some of the best and most scientific brains in the Kingdom are now giving their attention, and with astounding results, to the problems of manufacture, or that capital and labor were never working more harmoniously together, or that trades-union practices which interfered with the maximum production have been done away with.

"It is not merely that over 4500 firms, not one of which before the war even dreamed of making munitions, are now engaged in nothing else, or that we have erected over 100 colossal Government factories for turning out shells, guns, powder and the implements of trench warfare, or that we have trained and organized and are now employing on war work some 3,500,000 people, or that we have discovered and utilized the immense, the hitherto unused, industrial capacities of women.

"It is not merely that the Government is branching out in a hundred helpful directions and backing up our merchants and manufacturers with all the resources at its command. It is not merely that our biggest firms are everywhere getting together and organizing the trades to which they belong as they have never been organized before. * * *

"And to what effect she is working may be judged by the fact that in spite of the vast exodus from industry to the army and navy, and in spite of the concentration of the main labor force upon munitions, her exports of ordinary commercial commodities reached last year a value only once exceeded in the most prosperous times of peace. * *

"In almost all the big commercial and administra-

tive undertakings that are inseparable from war, and without which victory cannot be achieved, the British Government has come off with flying colors. Its statesmanship, for instance, in the early days of the war saved the fabric of international credit from what might have been irreparable ruin.

"The measures by which it assumed control of the railways and has since directed them were so well thought out that scarcely a life, or an hour of time, or a ton of stores or equipment has been lost in the whole tremendous business of transporting and supplying our armies overseas. * * *

"Meanwhile to make the rounds of any of the British fronts at any of the theaters of war is to view a microcosm of the Empire. It is, indeed, the climax to all other services and achievements that we should have turned ourselves into a military power of the first order. People talk of Great Britain being slow to wake up to the realities of the war. So we were in some ways. But 2,000,000 men enlisted in the first year of the war, which seems to show a certain consciousness that, at any rate, something unusual was going on. And before conscription came into force in May of last year—that is, before the war was two years old—5,000,000 men, or more than 11 per cent. of the total population of the British Isles, had volunteered. * * *

"But our men who are thus helping to wear down the most formidable foe that has ever assaulted the freedom of Europe; who have captured Bagdad and are contributing to end Turkish rule in Asia Minor; who have mopped up the German colonies, while preserving intact the integrity of all British possessions, and who are holding up their end in the difficult warfare of the Balkans—these men are something more than the backbone of Britain during the struggle. **They will be its backbone also in the hardly less anxious years of peace. They will be the pivot of the new England that is being forged in the furnace of the war.**"

FULL USE OF RAILROAD EQUIPMENT VERY IMPORTANT.

SHORTAGE of cars is alleged to be one of the main causes of the great advance in the price of coal, the difficulties of shipment resulting therefrom bringing about a bidding up of the price by individuals or companies whose needs compel them to insist upon steady supplies of the fuel. The car shortage is produced in various ways, two of which are most apparent, viz., delays in unloading cars at destinations and diversion of cars to the handling of other kinds of freight, certain coal cars being of such types as readily lend themselves to carrying other kinds of traffic.

The British Board of Trade, which governs such matters in the United Kingdom, has taken hold of the car service question with a firm grip and in a manner which might serve as an example in this country. It has made it an offense under the Defense of the Realm Regulations to detain a car (they call it a "waggon" over there) longer than a prescribed time, which in general is one full day for loading and two full days for unloading. Three days are allowed for unloading at ports; in Scotland, particularly, this time is four days, and in that country the loading time for coal cars is extended to two days. To insure expedition in unloading cars the railroads are authorized to unload the cars themselves and take them away from warehouses or other points if consignees are dilatory in removing goods therefrom. Railroad cars owned by private companies may, under the regulations, be used by the railroads to carry goods on their return trips, this being directed to prevent unnecessary hauling of empty cars which would incline to limit the traffic capacity of trains.

Some such set of regulations as this ought to be declared and enforced in the United States. Railroad cars are too frequently used as storage warehouses for goods at seaports while awaiting ships, the owners preferring to pay the demurrage charges rather than handle their goods twice, as would be necessary in the case of waiting for steamship service, for instance. This amounts to a diversion of cars from the uses for which they were intended, and it has a direct influence upon the tendency to

increase prices to the consumer. Another evil in the transportation world is also the lack of an adequate supply of locomotives, although the car shortage is the pressing difficulty which should be corrected without delay.

At this point comes in the argument that the railroads need more income, which should be obtained through an advance of freight rates in order to increase the stability of their credit in the money markets, so that they can get financing adequate to their equipment requirements; but as the Interstate Commerce Commission has authorized them to file schedules of increased rates amounting to about 15 per cent. to be effective July 1 (although this does not carry approval of such rates by the commission; that will or may come later, provided that the objections which may be registered are not too strenuous to overcome), it appears that they may soon find their way out of the waters of the River of Doubt, so to say, and sail freely on the bosom of the broad sea of certainty and satisfaction with ample credit at their disposal with which to meet the pressing conditions more than ever bearing hard upon them in consequence of our entry into the world war.

Meanwhile, with these pleasurable anticipations in view, it is none the less important and imperative that nothing should be left undone to enlarge the traffic carrying capacity of the railroads with such equipment as they now have on hand and in service, not to mention that which has already been ordered. Lately orders for new cars and engines have fallen to practically the disappearing point, and if equipment contracts were let now it would take several months to fill them. Some compelling regulation ought to be applied to the situation immediately so as to insure the fullest use of the existing facilities and to ward off any and all attempts to reap private or other opportunities of profit by means which would be hampering to the country.

PRESENT DEARTH OF FOODSTUFFS CLEARLY FORESEEN.

NOT with any spirit of "We told you so," but merely to reiterate what the MANUFACTURERS RECORD has been persistently and for months urging on the country as an absolute necessity, we quote herewith extracts from editorials on the foodstuffs situation that have appeared in our columns from time to time.

Last October, in discussing the "Heavy Shortage in Crop Production," we said:

"Before another crop season the country will be practically swept bare of wheat and corn and cotton, and prices will go far higher than now unless there is an assurance, by a greatly increased acreage, of a larger yield. * * *

"Duty to national welfare and to avoid famine conditions next year (1917) demands that every business and governmental influence available should be put forth to bring about an increase in acreage for foodstuffs this fall and next spring."

On November 16 there was printed an editorial with the title, "Heavy Decrease in Crops, Followed by Great Increase in Values; A Condition from Which No Relief Can Be Found Except in Bumper Crops Next Year."

Again, on November 30, after being called to task by the Albany (N. Y.) Evening Journal regarding the correctness of some statistics published on the shortage of grain crops, we showed that the grain crops of 1916, including also the potato crop, were not only below the yield of 1915, but far below the average yield of the preceding ten years.

Also the leading editorial of our issue of December 7 contained the following: "There is more demand for foodstuffs than the farmers of this and other countries are able to supply. * * * So long as the fight lasts Europe must draw upon the resources of the world for foodstuffs. Under these circumstances it becomes a prime necessity for this country to increase its supply of foodstuffs to the largest extent possible, recognizing that there is no probability of any materially lower prices than we now have for some years to come."

On December 21 the MANUFACTURERS RECORD took issue with the optimistic and somewhat misleading statements made in the annual report of the Secre-

tary of Agriculture, and pointed out, from figures compiled from the Department's report, the shortage and decrease in production of foodstuffs.

And on February 15, in again writing on the world scarcity of foodstuffs, we said:

"Nothing less than a bumper crop of grain will save us from exorbitantly high prices for wheat and corn next winter. It is important that the whole country should understand this situation, but it is doubly important that the farmers of the South should understand it and plant the largest acreage in grain which they have ever had in order to save themselves from having to pay the highest price they have ever paid for their foodstuffs."

Even as late as early March there were papers publishing such misleading statements as are shown in the following samples:

"America, rich in harvests and in manufacturing, more productive in foodstuffs during the last season than ever before."

"Considering the enormous crop yields of recent years, the prices enforced on foodstuffs are criminal."

Is it any wonder that some people should be surprised to find the extent of the foodstuff shortage in this country?

HELPS TO THE INCREASE AND SAVING OF FOOD SUPPLIES.

AS a stimulus to increased farming operations in their section of southern Georgia, bankers, business men and farmers of Albany, Ga., have organized the Georgia Farm Products Company. The plans that have been laid can be adopted with advantage by the business men of other communities throughout the South.

The Georgia Farm Products Company proposes to buy for spot cash any farm products that may be offered them, and will be in position to advance money to farmers on products which they desire to store and hold for later sale. Grain, livestock, poultry, etc., will be handled, and probably fresh vegetables in season. It is proposed also to operate a modern canning factory, where fruits and vegetables may be preserved.

The plans of the company are outlined in correspondence published in this week's issue of the MANUFACTURERS RECORD, and we offer the suggestion that chambers of commerce and other organizations throughout the South get in touch with the Albany company and emulate their excellent example.

WHAT THE COUNTRY NEEDS NOW IS CROPS.

"FINANCIAL AMERICA" takes us to task for our sarcastic allusion recently to the man who refused to work on a farm because a bathtub was not provided for him. It says:

"What the American farm needs, next to machine power, money and fertilizer, is human comfort. It has been the dreariest, most God-forsaken excuse for 'home' that an intelligent, prosperous people ever tolerated. It had few creature comforts."

There was a time when this could be truthfully said about a great many farmhouses in different parts of the country, but a better day dawned years ago on a large number of our American farms, and the facilities that make life worth living are now enjoyed to an extent not dreamed of by the last generation. But whether the farm has a house water supply, or a bathtub, or has not, seems to us to be entirely aside from the point in the present emergency. Farms that have no bathtubs should not go without help because of any delinquency in this respect. It is a time when help must be forthcoming if the farmer is to raise the crops expected of him, and it is not a time for splitting hairs about comforts, even if the creek has to be used in the dark of the moon for the needed ablution.

An increase of capital from \$100,000 to \$300,000 has been decided upon by the Loudon (Tenn.) Hosiery Mills Co.

SEA-ISLAND COTTON GETTING BACK HOME.

Boll-Weevil Driving Cultivation from Mainland to Islands Where It First Was Raised.

The Board of Trade,

Brunswick, Ga., April 28.

Editor Manufacturers Record:

In your issue of April 19 you ask your readers to advise the MANUFACTURERS RECORD what is being done in their States to increase production of sea-island cotton.

The boll-weevil has reached the state of acute destruction in the sea-island cotton section of Georgia and Florida; in fact, great damage was done to the crop last year. While many farmers are planting less and trying to escape loss of crops by planting early and forcing to maturity before the weevil reaches its worst, many of them are turning to other crops, principally food crops, forage crops and cattle and hogs, realizing that the boll-weevil is with them to stay and that there will be an urgent need for all foodstuffs during this year and probably for a long time to come, and that prices will be very high and insure a maximum profit.

In the strip near the seacoast, which is sparsely settled and has been engaged for years principally in the lumber and naval-stores industries, there has never been much planting of either sea-island or short-staple cotton until this year. Consequently, the boll-weevil has not yet reached the strip along the coast some 30 to 50 miles wide, and there is little prospect of damage to cotton planted this year or even next year. This is particularly true of the sea islands along the Georgia coast, which are protected from invasion by the boll-weevil by the stretch of country along the coast in which little cotton is grown, by the wide area of salt inlets and salt marshes between the islands and the mainland, and by the direction of the prevailing winds, which come from seaward.

St. Simons Island, lying on the northeast of Brunswick harbor at the entrance, is the original home of sea-island cotton in America, the first planting having been made there. With the advent of free labor after the Civil War, with high wages on the coast in the lumber and naval-stores industries and on the docks, the planting declined until it disappeared almost entirely. For a few years recently there has been a revival of planting. Residents of St. Simons Island have planted several hundred acres this spring, and the St. Simons Island Cotton Co., a corporation recently formed through the efforts of the agricultural department of the Atlanta, Birmingham & Atlantic Railway, with the co-operation of the Brunswick Board of Trade, has planted 125 acres in sea-island cotton, and next year expect to have fully 1500 acres in this crop. It is reported that the company has been offered 75 cents per pound for their crop already; in fact, before it was above ground. As the market today is 70 cents per pound, it is altogether probable that sea-island cotton of the unequaled quality that grows only on the sea islands will bring at least \$1 a pound this fall.

The prospects are that the greater part of the arable land on the sea islands, many thousands of acres, will be planted again in sea-island cotton next spring. St. Simons Island is about 12 miles long and two to three wide. Before the Civil War every acre of high land was in cultivation. Old-timers now living say that then there was so little woodland that the finding of fuel was a problem. Those who have planted cotton on St. Simons this year have had no difficulty in securing labor at reasonable cost.

ALBERT M. SMITH, Secretary.

Kessler to Lay Out Park for Sherman.

Sherman, Tex., April 28.—[Special.]—George E. Kessler, landscape architect of St. Louis, has been employed by the City Commissioners of Sherman to lay out plans for the Red River Valley Fair Park.

Grounds have been purchased within three blocks of the center of the city, and a bond issue of \$50,000 was recently voted for the purpose of beautifying and erecting thereon a coliseum and exhibit hall. Mr. Kessler has now been employed by the city to lay out the grounds.

This will serve as a combination fair park, baseball, football and general athletic and recreation park.

Shipbuilding Industry of South Rapidly Expanding to Great Proportions

NEW PROJECTS IN PROCESS OF FORMATION, TOGETHER WITH ENLARGING FACILITIES OF EXISTING PLANTS, REPRESENT CAPITALIZATION OF \$100,000,000 — CONTRACTS FOR GOVERNMENT AND OTHER WORK TAXING CAPACITY OF ALL SOUTHERN PLANTS—GREAT INDUSTRY IS BEING FIRMLY ESTABLISHED.

A tremendous impetus to shipbuilding activities in the South is manifested in reports received this week by the MANUFACTURERS RECORD. From Maryland to Texas announcements come of important new organizations in process of formation, with capitalizations running up to a total of over \$100,000,000, while several of the existing plants are arranging to extend their facilities to meet the urgent demand for vessels for Government and commercial uses. Among these larger enterprises is a company planned for organization at Baltimore, to have a capitalization of from \$50,000,000 to \$75,000,000. Another Baltimore company plans a \$2,000,000 expenditure for additions to its present plant. At New Orleans a \$10,000,000 to \$15,000,000 company is planned. At Galveston a \$750,000 investment is proposed. At Georgetown, S. C., capitalists contemplate shipyards capitalized at \$3,000,000.

Great activities at established plants are reported from various ports on the South Atlantic and Gulf, indicating that an era of shipbuilding of broad scope and importance has been entered upon by the South.

The most important announcements of the week, as reported to the MANUFACTURERS RECORD, are outlined in the following statements:

Plans are being formulated for the organization of a company which would manufacture steel and construct ships in the Baltimore industrial section. A capitalization of \$50,000,000 and possibly \$75,000,000 is proposed, and a site is in view on the Patapsco River in Anne Arundel county, Md. Pittsburgh steel manufacturers and New York bankers are understood to be interested, while the immediate projectors of this big enterprise are Bernard N. Baker (well known to the shipping trade of this country), Emory M. Newton and DuRell Gage, the latter an engineer of experience in South American ore developments. The Emtan Land Co. has been incorporated with \$1,050,000 capital to buy land optioned by Mr. Newton and to develop it as the site of the shipbuilding plant and industrial city. About 1800 acres will be utilized.

A plan is announced by which J. W. Thompson of St. Louis proposes a large shipbuilding plant for the construction of battleships and other vessels of large capacity at New Orleans. Mr. Thompson is a large contractor who built the Texas & Pacific Railway terminals at New Orleans and the terminals at Dallas, Tex. It is proposed to acquire the old railway slips at Chalmette, constructed some years ago by the Frisco Railroad and subsequently taken over by the Southern Railway, which had previously owned an interest in the property. As announced, the company to be organized will have a capitalization of from \$10,000,000 to \$15,000,000, the plant to employ from 5000 to 12,000 men.

The Georgetown Shipbuilding Corporation, Georgetown, S. C., has been organized by C. S. Juell and associates, who include New York capitalists. It has been the intention to establish a plant at Georgetown, but possibly a change of location will be determined upon. The plant is to include a foundry, machine shop, planing mill, marine railway for vessels not exceeding 200 feet and floating drydock for vessels not exceeding 6000 tons. Reports state that a capitalization of \$3,000,000 has been arranged for this project.

Additional facilities, the cost to be about \$2,000,000, have been decided upon by the Baltimore Dry Docks & Ship Building Co., Baltimore, Md. Day & Zimmerman of Philadelphia, the well-known engineers, have been engaged to determine details and to advise as to the equipment for this additional yard. The Baltimore company has an option on a 20-acre property, including a 600-foot water-front at Spring Gardens, in the south-

ern limits of Baltimore, opposite its present plant at Locust Point. Immediate plans provide for four or five shipbuilding berths for vessels up to 600 feet long and of 15,000 gross tonnage. Future plans contemplate drydock facilities, to include a floating drydock.

About \$100,000 is the initial investment planned by the Seaboard Transportation & Shipping Co., Galveston, Tex., which has organized with plans for an early increase to a capitalization of \$500,000 and later to \$750,000. This enterprise is being directed by Henry J. Schutte, the company's general manager, with T. J. Anderson as the naval architect and marine engineer in charge. Galveston, Houston and New Orleans capitalists are interested. The Seaboard shipbuilding plant will at first consist of a marine railway capable of hauling out ships up to 1000 tons, to be added to by drydock and general shipbuilding facilities in the near future. It has already planned to convert a large steel barge, purchased in Central America, into an oil barge at a cost of about \$75,000. This vessel is 212 feet long and has a 31-foot breadth of beam. On account of Galveston's proximity to the Texas and Louisiana pine timber belts, this Texas city is admirably located for the construction of wooden ships.

This company has applied to the city for a lease on Pelican Spit in Galveston harbor, and contemplates at first using it as a mooring station for tugs and barges, following this with the construction of a large floating drydock proposed to be the largest on the Gulf coast.

The construction of wooden schooners and steel tugs has been decided upon by the Galveston Dry Dock & Construction Co., J. P. McDonough, president, Galveston, Tex., now operating machine shops and marine ways. Pelican Island has been selected as the site of shipyards which the company will build in order to construct the schooners and tugs. Only the hulls will be built, the machinery to be installed elsewhere by the owners.

New York and Orange capitalists will build shipyards at Orange, Tex. They include John M. Dullahan of Orange and A. A. Daugherty of New York, who have contracts for building seven steamships. Three of these will be tank steamers, each of 3300 tons dead weight and 270 feet long by 42 feet wide, with 26 feet molded depth, for the Seaboard Oil & Refining Co. for transporting crude oil from Mexican ports to Orange. Two others will be of 4500 tons dead weight, wooden construction, 300 feet long, 48 feet wide, with 27½-foot molded depth. Each will be equipped with engines of 1600 horse-power. The Dullahan & Daugherty plant site is on the Texas side of the Sabine River, and seven shipways with accompanying derricks, traveling cranes, etc., have been ordered for installation. This equipment is now en route by steamer from New York. Edward F. Terry of the Terry & Tench Construction Co., marine architect and builder, New York, is in entire charge of constructing the ways and vessels.

Four wooden steamships of about 3000 tons each will be built at Tampa, Fla., by L. E. Knight and McGucken & Hyer. This firm has a site on the municipal estuary, where it is planned to build yards for wooden ships up to 300 feet long. Preparations are now being made to lay two cradles for the four wooden vessels, each of which will be 285 feet long with a beam of 48 feet. The cost of each will be about \$300,000, and the machinery will be furnished to the ship contractors by the Federal Shipping Board. Within a week the new shipbuilding firm expects to have 600 men employed on the construction of these boats.

Shipyards for Jacksonville, Pensacola and Tampa, Fla., are planned by C. W. Deen of Lakeland, Fla., and associates. The Florida Shipbuilding Co. is to establish these plants and has organized for locating the first yards at Pensacola, having obtained contracts for building three wooden vessels for the Government. J. M. Murdock of Washington, D. C.; Fred McConnell of

Jacksonville, William Wells of Arcadia, Fla., and C. W. Deen, who has been elected president, organized the new company.

Additional facilities are planned for the Merrill-Stevens Company, Jacksonville, Fla., whose activities in shipbuilding and whose large contracts have been heretofore announced. They will be provided mainly by constructing another drydock across the St. Johns River, opposite the present Merrill-Stevens plant. Preparatory to improvements, the Merrill-Stevens management has awarded contract to the Seaboard Dredging Co. of Jacksonville for constructing a 1000-foot canal 130 feet wide by 15 feet deep. This work is in connection with the company's plan, reported in March, to enlarge shipyards and construct berths for four 5000-ton steel vessels. Laying tracks, filling in land, cutting rights of way, etc., are now progressing for the company's improvements on the south side of the river, the plans being to erect and equip a boatbuilding plant capable of handling 5000-ton steamers. This plant is expected to be in operation within six months.

Four submarine chasers for the Government will be built at the Henderson Iron Works, Mobile, Ala., by the Barrett Shipbuilding Co. They will cost \$44,000 each and will be of the 110-foot type, propelled by high power steam engines. The Barrett Shipbuilding Co. is a new organization which has been formed with an initial capital of \$13,000 and the following officers: George S. Letherbury, president; J. T. Schley, vice-president; William R. Quina, secretary-treasurer. The directors are Harry H. Smith, J. B. Davis and G. M. Luce, all of Mobile.

The construction of 1000-ton wooden vessels for barges, sailing vessels or auxiliaries is planned by W. H. Grannis of Baltimore. Mr. Grannis contemplates organizing a company to build shipyards at Orange, Tex., on the Sabine River, 25 miles from the Gulf of Mexico, and is understood to be completing arrangements in the East with a view of going to Orange during May to determine details and begin construction.

Preliminary work is being completed by the Tampa Foundry & Machine Co., Tampa, Fla., for constructing two 3500-ton steel vessels. The management is driving piles for the new berths and expects to lay one keel in two weeks and another before June 1. About 1000 men will be employed on constructing these two vessels, each of steel construction, 276 feet long and of 3500 net tons, as heretofore announced. The 2200-ton boat, the Poughkeepsie, which the company has been building for the Central Hudson Navigation Co. of New York, is nearing completion.

Submarine chasers and other vessels will be built by the Marine Transport Co., Mobile, Ala., which has been incorporated with an initial capital of \$3000. Peyton Norville and W. J. Norville of Mobile are the principals in this enterprise, and it is understood that they have interested several Mobile capitalists identified with nautical activities. This company is at present only operating a vessel, and its ship construction plans are for future consideration.

Dwyer Bros. of New York are planning, according to dispatches from Pensacola, to construct a shipbuilding plant at that Florida city. They are understood to have already investigated sites and determined upon establishing this yard.

Plans for building shipyards at Beaumont, Tex., are being formulated by the Crowell Shipbuilding Co., the Chamber of Commerce being interested in securing this enterprise. No plant details or names of interested capitalists are stated.

Another Beaumont proposed shipbuilding plant is that of the McBride & Law Shipbuilding Co. The Chamber of Commerce is endeavoring to ensure the location of this industry, but no plant details or names of projectors have been announced.

Shipyards are proposed at Quantico, Va., by the Potomac Shipbuilding Co. This is a new corporation chartered with an authorized capital of \$3,000,000, with George C. Shepard of Baltimore as engineer and general manager. Orren G. Staples of Washington, D. C., is president, and George Purvis of Fredericksburg, Va., secretary-treasurer.

The Puntarassa Ship Builders, B. L. Hendry, manager, Fort Myers, Fla., expect to close contract for two large wooden ships, and upon receiving these orders will add sufficient machinery to provide for the construction involved, expending from \$20,000 to \$30,000 for the new equipment.

Extensive Shipbuilding Industry Strongly Established at Orange, Tex.

FIVE SUBSTANTIAL CONCERNS NOW ENGAGED IN CONSTRUCTION OF WOODEN VESSELS—ALSO HOME OF IMPORTANT LUTCHER & MOORE LUMBER CO. OPERATIONS.

[Special Correspondence Manufacturers Record.]

Orange, Tex., April 28.

The South is fast taking advantage of the opportunities afforded for development along industrial lines. This fact is being particularly emphasized at Orange, Tex., a new but rapidly-growing port on the Sabine River, where five substantial concerns have been organized to engage in shipbuilding.

The greatest development has been brought about through the efforts of Henry Piaggio of Mobile, Ala. Mr. Piaggio came to Orange in May, 1916, and after finding all conditions satisfactory located the Swailes Shipyard and immediately began construction of a sailing vessel, which was launched November 20 and christened City of Orange. This ship went to sea April 23, 1917, with a full cargo taken at this port.

Before completion of the first vessel it became evident that shipbuilding could be successfully conducted at Orange, thus encouraging Mr. Piaggio to contract for 11 additional ships. The second ship, City of Houston, sister ship to the City of Orange, was successfully launched April 21. There are five ships on the ways at this writing, and foundations are being prepared for five others as rapidly as material can be placed upon the ground. Labor conditions have been found entirely satisfactory for this industry, and weather conditions are such as to enable the men to put in the maximum number of days per month.

D. R. McInnis, Orange, manager for Mr. Piaggio, furnishes the dimensions of ships constructed and under contract as follows:

City of Orange—A five-masted topsail schooner; keel laid May 17, 1916; launched November 20, 1916; length, 237 feet over all; beam, 43 feet; draft, 24.6 feet; gross tonnage, 2700 tons; capacity in feet, lumber, 1,250,000; equipped with two 100-horse-power engines (marine).

City of Houston—A four-masted auxiliary barken-

time; keel laid July, 1916; launched April 21, 1917; length, 237 feet over all; beam, 43 feet; draft, 24.6 feet; gross tonnage, 2700 tons; capacity in lumber, 1,250,000 feet.

City of Pensacola—Keel laid August, 1916; length, 187 feet over all; beam, 38 feet; draft, 17 feet; gross tonnage, 1450; capacity in feet of lumber, 700,000.

Nos. 4 and 5—Length, 267 feet; beam, 46 feet; draft, 25 feet; gross tonnage, 3000; capacity in feet of lumber, 1,500,000.

Nos. 8, 9, 10, 11 and 12—Length, 308 feet; beam, 47 feet; draft, 25 feet; gross tonnage, 3600; capacity in feet of lumber, 1,800,000.

Nos. 4, 5, 8, 9, 10, 11 and 12 are five-masted barkentines, equipped with large engines, the exact size of which is to be determined.

Other companies have been recently organized for shipbuilding, and plans are now being made by them for the construction of several steamers and sailing vessels.

The Southern Drydock & Shipbuilding Co. will shortly begin construction of a schooner of 165-foot keel; 185 feet over all; 37-foot beam; 14 feet depth of hold; gross tonnage, 700.

This company is composed of Orange business men, and is capitalized at \$50,000. It is the intention of the company to increase its capital and engage in a general drydock and shipbuilding business. An ideal location has been secured, and as the company is financed by some of the strongest and most successful men in this section, there is every reason to believe the company will develop into one of the largest concerns engaged in this industry in the South.

The Orange Maritime Corporation, organized and capitalized by Orange citizens, is another concern engaged in shipbuilding. This corporation, capitalized at \$50,000 and financed by responsible parties, has con-

structed one sailing vessel, has another under construction and has been very successful in its operations.

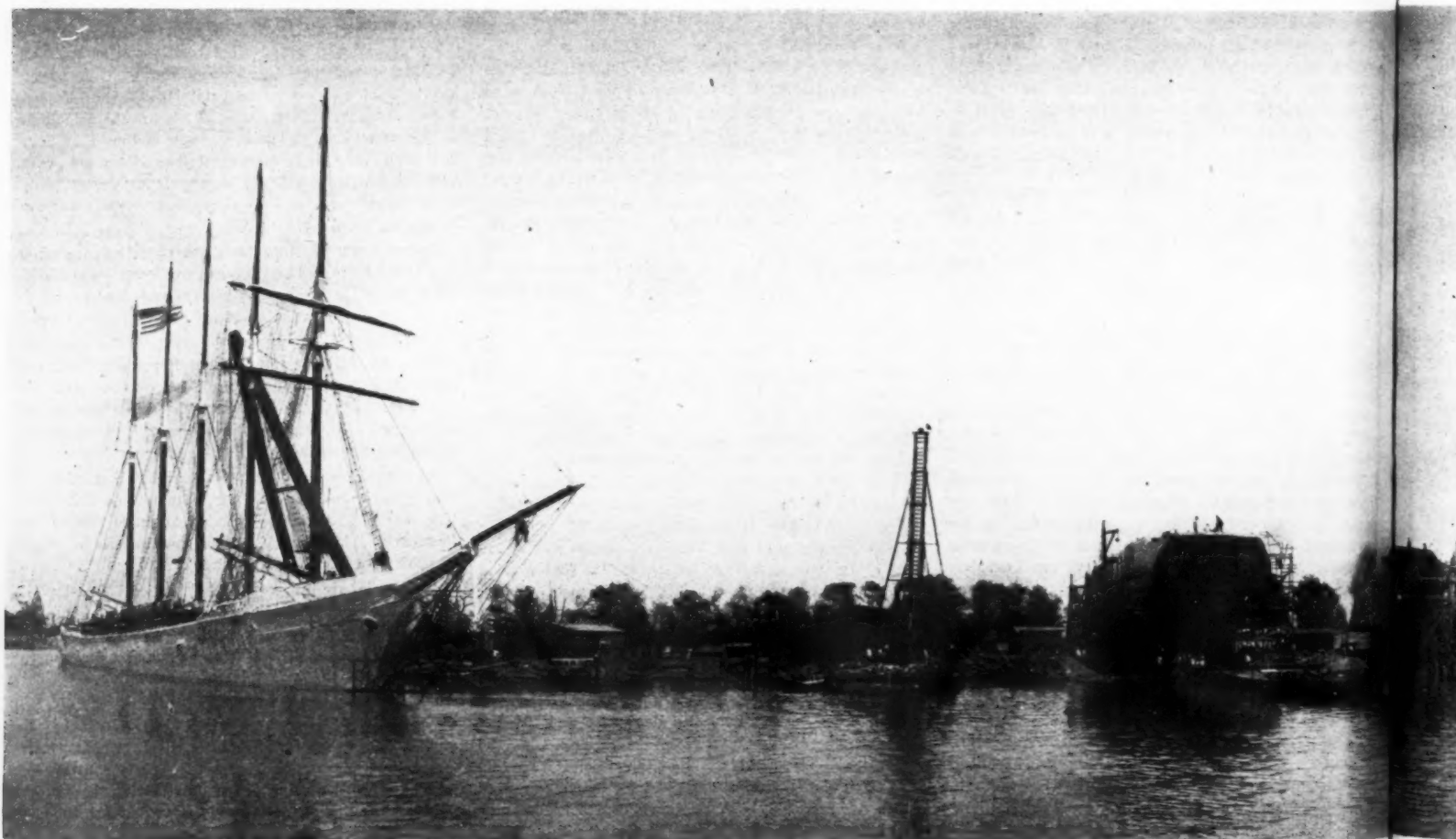
The National Shipbuilding Co., organized and financed largely by Eastern capitalists, has secured one of the best locations on the Sabine River at Orange and is now assembling machinery, material, etc., for the construction of a very large shipbuilding plant. All facts concerning this company are not available at this time, but from the fact that its representatives are placing large contracts in this vicinity, it seems safe to assume that this industry is accomplished and will operate on an extensive scale.

Shipbuilding was first attempted at Orange by Jos. Weaver & Sons. This concern has been in operation for the past 10 years, and has met with much success. Weaver & Sons have devoted their attention largely to building small craft and doing repair work. This has been done, however, with much success, and to this concern is due the credit for the immense expansion of the industry in these waters.

The situation is particularly satisfactory for shipbuilding, owing to the fact that the Sabine River at this port is very wide and deep. There is ample space for location on either bank of the stream, and lumber and other materials required are available on a basis corresponding with other shipbuilding centers. The developments, which are now facts, lead a close student of Southern industry to conclude that shipbuilding has become a permanent and successful industry at the port of Orange, and that those who have intrusted their funds to this investment should be entirely satisfied with results.

The city of Orange, with a population of 12,500, is beautifully located on the banks of the Sabine River, 20 miles from the Gulf of Mexico. The outlet to the Gulf is through Sabine Pass, there being full 26 feet depth of water from the docks to the open sea.

Orange was opened as a port in January, 1916, and has made rapid development. Vessels are being loaded daily with exports for Europe, South America, Mexico, West Indies and other countries. Municipal docks and wharves are provided and every facility afforded for prompt and economical handling of cargoes. Living conditions in the city are excellent. Every modern convenience is provided. The streets are well paved, and there are miles of shelled country roads. There are many beautiful homes surrounded by lawns and forest trees. Educational facilities are of the best. In Orange



VIEW OF SHIPYARD OF HENRY PIAGGIO AT ORANGE, TEX. ONE OF THE SEVEN SHIPS WHICH

the capitalist will find many opportunities for successful investment, the laboring man an abundance of work at fair wages, and both will find every home convenience and comfort.

Orange is the home of the extensive Lutch & Moore Lumber Co., one of the largest and oldest sawmill companies in the Southwest. A new circular, band and gang mill that will manufacture 250,000 feet a day has recently been constructed on the banks of the Sabine. There are six miles of monorail connecting the plant with the planing mill and shipping operations. There will be a 1200-foot wharf with an electric crane for the delivery of cargoes direct from the mills to ship-side. With its equipment completed, this will be one of the most modern plants in America.

GREAT TENNESSEE PLANT FOR TOMATO CANNING.

Columbia Company Will Market 1,200,000 Cans the Present Year.

Columbia, Tenn., April 27—[Special.]—While in Columbia manufacturing enterprises do not thrive in variety, yet the much agitated food problem has given to Columbia a "food factory," the largest of the kind south of the Ohio River. The Columbia Canning Co. has been in existence for several years, commercializing such foodstuffs as were indigenous to its immediate environment. Much of the raw materials have been cultivated and grown on their own properties, but as if inspired by patriotism and stimulated by the warning of the Department of Agriculture, the Columbia Canning Co. has adopted a plan that is not duplicated anywhere. Located near their plant, on the most resourceful soil area in Tennessee, is a 100-acre tract that is being prepared for tomato plants. Near this site there is a vast array of khaki canvas, not an army camp, but a multiplicity of fertile beds, where more than 300,000 tomato plants are being carefully nurtured and prepared for the largest tomato crop in the history of Tennessee. The Federal protection offered the manufacture of perishable foodstuffs has practically removed all limit from the plans of the manufacturers, and with favorable weather conditions this 100-acre tract will easily produce 250 bushels per acre, or a total yield of 25,000 bushels. Packed in standard size cans, this

product when ready for shipment will be represented by 300,000 cans. These cans are packed 24 to the case, and shipments are made in cars of 800 to 1000 cases. The capacity of the plant when running at full capacity with a force of 250 employees finishes 60,000 cans per day, or 100 cans per minute, and with the splendid system that is maintained this vast argosy of perishable foodstuffs will be ready for the consumer with a very small loss percentage.

The 100-acre tract that will be cultivated by the manufacturers themselves represents a very small part of the crop that will be worked up at the factory. Contracts have already been made with farmers in the county calling for 300 acres in addition. This is an additional 75,000 bushels that the factory must handle with great dispatch in order to avoid loss for highly perishable products, so it can be seen that when the season opens, the latter part of July, this plant will be second in importance to the munitions plants. The Government has tendered all aid to manufacturers of perishable goods, and the railroads have offered immediate rights of way for shipping. Such semi-staples as beans and hominy have been placed on the second-class list and will be handled only after the highly perishable foods have reached their destination. The 100,000 bushels that are estimated as the harvest on the crop are equivalent to 1,200,000 cans, and will be furnished for consumption at the rate of several trainloads per day.

The plant camp of this concern, located near the line of the Louisville & Nashville Railroad, is a most interesting sight. The tents cover a space of 1600 feet and the line is 10 feet wide. Floating in the breeze over each tent is an American flag.

Cottonseed Crushers' Convention.

The twenty-first annual convention of the Interstate Cottonseed Crushers' Association will be held in Dallas, Tex., May 14, 15 and 16. The chairmen of the committees in charge of arranging the details for the meeting are: Executive committee, W. I. Yopp; Jo. W. Allison, program arrangement; D. G. Dunlap, finance; Edgar L. Flippen, reception; J. S. Le Clercq, hotel; R. L. Heflin, city clubs; John L. Puterbaugh, country clubs and golf; W. S. Fontaine, automobile; A. A. Frierson, registration and badges; Clarence Martin, publicity; Carr P. Collins, general secretary.

Chattanooga's New Steel Mill Now Seems Assured.

Chattanooga, Tenn., April 29—[Special.]—C. E. James, president Chattanooga Steel Co., has just announced that he has secured a group of practical and financially able steel men to join him in the erection of a large modern steel mill in Chattanooga. During the past winter the company has been putting in brick sewers on the mill site on the north side of the Tennessee River, and this work is now completed. The Chattanooga Steel Co. was originally incorporated with a capital of \$3,000,000 and all plans were completed for the erection of the steel plant, but these plans were temporarily halted by the death of the most important associate of Mr. James.

It is planned to take the output of a local furnace, but local parties are considering the erection of a furnace especially to supply the new steel mill.

Mr. James has also announced that contracts will be awarded immediately for a 12-story addition of 48 rooms to the James Building, making this the largest office building in Chattanooga. The building will be all steel, concrete and brick.

The first expenditure here of consequence incident to the war is now being made at Fort Oglethorpe, where 81 frame buildings are being erected for 2500 men who are to join the United States Army reserve officers' training camp, the estimated cost of this equipment being \$25,000.

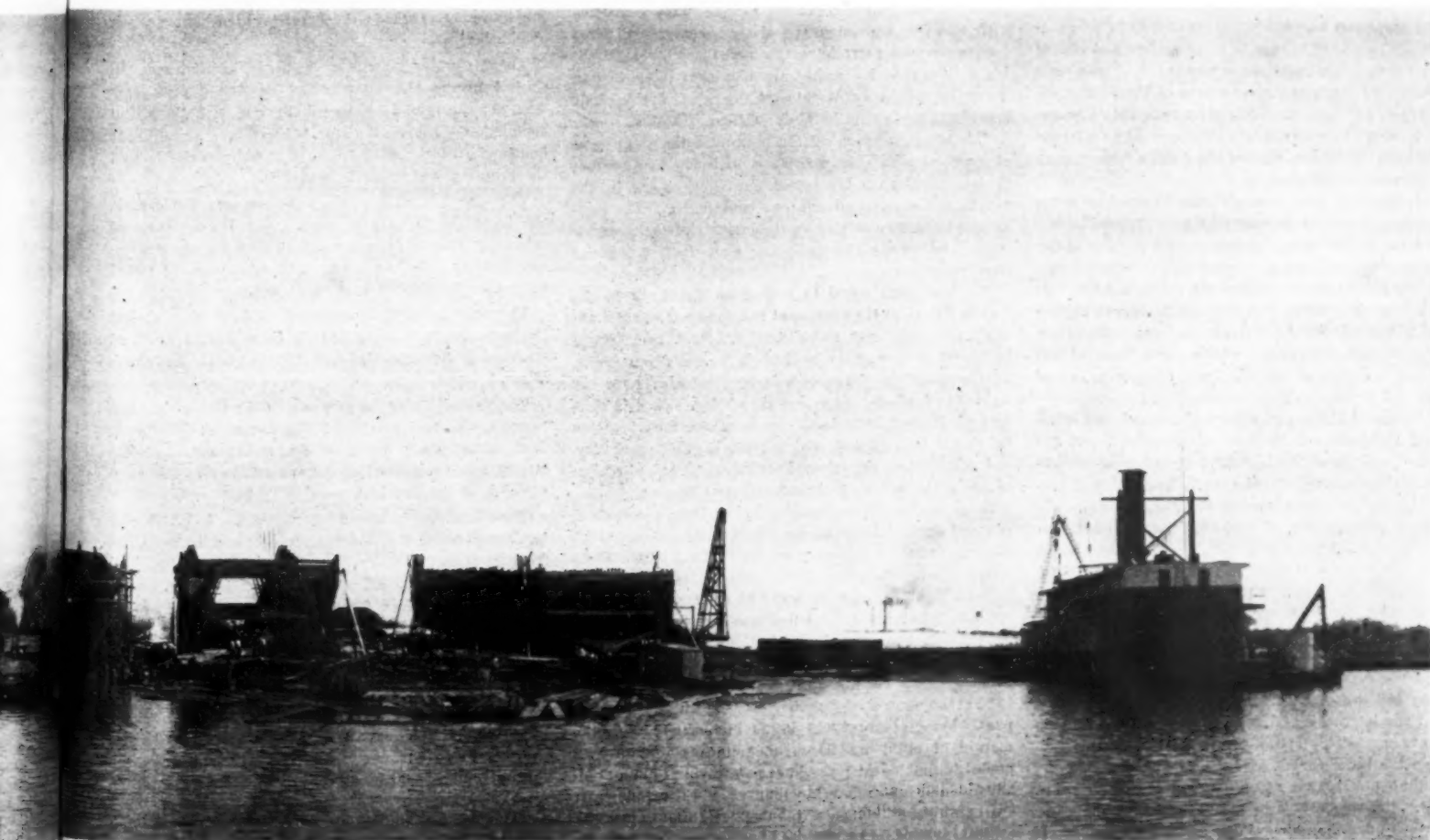
The middle and final span, a double steel lift of 300 feet, on the million-dollar Tennessee River bridge will be completed this summer. The completion of this bridge will further increase the importance and availability of the factory-site section on the Chattanooga Traction Line.

Industrial activities in the Chattanooga district are at high tide.

With Us in Sentiment.

HUGH E. NAYLOR, President Gooney Manor Copper Co., Inc., Front Royal, Va.

We wish to endorse your stand on conscription and your views generally as set forth in the MANUFACTURERS RECORD as to what should be our course with Germany. Your sentiments are mine. I am with you.



SEVENTH WHICH HAVE MADE ORANGE A SHIPBUILDING CENTER OF GROWING IMPORTANCE.

To Put the Business of War on a Soundly Scientific Basis

EXPERIENCE OF COUNTRIES OF EUROPE PLACED IN THIS GOVERNMENT'S HANDS BY VISITING COMMISSIONERS—ANALYSIS OF MANUFACTURERS' COSTS ESSENTIAL TO EQUITABLE CONTRACTING—SPECIALISTS OF HIGHEST FITNESS REQUIRED FOR DEPARTMENT HEADS, WITH ALMOST LIMITLESS POWER.

[Special Correspondence Manufacturers Record.]

Washington, D. C., April 30.

One of the great problems—perhaps the greatest problem—confronting the United States at its entrance into the world war is that of effectively mobilizing its war industries, of bringing them to the highest point of efficiency, and of providing for an adequate output of all materials without unnecessary wastes and delays and at a fair margin of profit to the manufacturers which will be justly and equitably allotted among them all, without partiality or favor.

This is the problem with which England and France had to wrestle for weary and nerve-racking years before it was finally surmounted. It is the problem that finds Russia almost hopelessly grappling with at the present moment, because it was not only not met in the earlier stages of the war in that country, but was actually further muddled and complicated by the plotters and traitors who held the reins of Government, while the soldiers were struggling without ammunition and often without food at the front.

The visit of the British and French war commissions to the United States has had largely in view the object of giving this country the benefit of the experiences of their respective countries in making available the supplies which they possessed. In one sense, the problem is simplified here. Not only have there been built up enormous industries in the United States as a result of the European war, but we have all kinds of supplies in practically unlimited quantities, whereas Europe in many lines was forced to work miracles with limited amounts of materials. On the other hand, the very vastness of our resources is not without its complications through the presentation of an embarrassment of riches.

Nevertheless, the visiting members of the commissions can and will bring to our aid a mass of details in organization methods that cannot fail to simplify and clarify the situation. What they have presented already is a revelation in industrial progress toward the high mark of efficiency and economy of production. This advance was not gained in a day, nor was it arrived at without the successive rejection of methods admirable in theory but inadequate in practice.

What England went through was, in brief, a series of experiences and experiments that narrowed themselves down to the final adoption and application of the fundamentals of the cost accounting system—that system which lies behind every successfully conducted business enterprise at the present day, and the intelligent utilization of which, whether by a single business organization or by a nation, determines whether the issue of the enterprise undertaken shall be one of success or of failure.

The result of the experiences was not only a setting aside of many former methods of procedure, but the building up of innumerable expert branches of governmental aid to contract letting, each headed by a specialist intimately acquainted with every step in the process of manufacture of the article or articles purchased through his particular division, from the obtaining of the raw material until its transformation into the finished product. These men were selected from the business industries with which they had been actually connected—leaders in their particular lines, having the confidence of all their coworkers in trade and manufacture, patriotic, willing to sever their former business relations and to forego the profits that would otherwise fall to their lot through sharing in the contracts which they gave out. This is the price they paid. England has been the beneficiary.

But the whole system of purchases had to be revolutionized. Pre-war contracts meant loss to many contractors. Under the new system, account was made of

the change in prices, a proper balance of loss was struck, and the contractors bore one-half and the Government the other half.

Many problems in cost accounting were encountered. These have been solved scientifically in various ways too technical for summarizing. The sizes of the various plants altered the relative costs of production, as did also the amounts of material turned out. All these were reduced to acceptable standards. The general plan of a 10 per cent. profit over cost of production was discarded. It meant a premium on thriftlessness and waste. Manufacturers gained rather than lost by extravagant methods. They wasted material and employed more men than were needed, the whole being cast into the lump cost of production, and the 10 per cent. profit thereon merely swelled their earnings.

Gradually the cost-accounting system, which regarded no detail as too minute or insignificant for consideration, spread to all branches—munitions, clothing, boots, finance—every form of production and expenditure. It worked everywhere. A reduction of 25 to 30 per cent. was secured in the cost of shells alone. This, in the aggregate, meant the saving of millions of pounds sterling. Asked whether this saving had been brought about by the adoption of the new system, the financial secretary said:

"Purely. We could not have done it if we had not had the independent analysis of costs."

He further explained that it was the essence of the system that one man should be held responsible for the delivery of the goods as goods, and another man responsible for the price. When questioned as to the development of the idea of using a cost system as an aid to making contracts, he replied:

"I have had a good deal to do with buying different goods in different companies I have been connected with, and I do know a good deal about cost systems, and I recognize the great importance of them here. Might I say this, that I also had the idea that if we had in Great Britain more of this costing work I think our manufacturers would be more efficient."

This is but the scantiest touching upon the great mass of material which the British commission has brought to this country to lay before our Government in the course of the international war conferences. The commissions are here to give us the benefits of their experiences, and among them this has proved of paramount importance.

We have men equal to taking up the work in the United States at the very point reached by Great Britain after enormous cost and difficulty. Such men should be placed at once at the head of the proper departments. In the selection of such heads peculiar fitness for the special task should determine the choice. Then if Herbert C. Hoover is to have charge of the food problem, he should be equipped with almost limitless authority, and a munitions department should be placed in charge of the best-fitted man the country can furnish.

Already the cost-accounting system has been worked out and studied in detail in this country. Edward N. Hurley, formerly chairman of the Federal Trade Commission, is an authority on the subject. He has striven in an official capacity to bring about in governmental methods what he had applied successfully in practice as a business man. As with the financial secretary quoted above, he has seen the need of a more general adopting of the costing work. As he recently explained:

"The happy-go-lucky period of American business is past. Manufacturers who began in business when the margin of profit was large and on that account succeeded in making fortunes have seen their profits gradually dwindle until now in many cases their industries are earning nothing more than mere interest upon the capital invested. Competitors have sprung up in practi-

cally every line and the question of efficiency has been forced more and more to the front.

"Even in our smaller manufacturing industries personal supervision of the plant is not always possible. The only reliable way in which an executive can determine the efficiency of his plant is through an adequate system of cost accounting, which returns to him at stated periods statements which reveal in a moment the condition of his business.

"Not only manufacturers, but merchants, should have accurate cost systems. Forces are at work which will eliminate those who persist in inefficient merchandising methods. Competition in this field, as in manufacturing, is reducing the margin of profit and demanding as a price of survival the strictest economy. A merchant also seriously limits the growth of his business if he does not have an adequate cost-accounting system. He is unable, when seeking credit, to produce a financial statement which inspires confidence and upon which the banker can extend the full credit to which he is entitled. A merchant who can show progress will undoubtedly receive more consideration, other things being equal, than one who cannot. Even if he is successful, but cannot show it because of his slovenly bookkeeping methods, the bank will not consider him a desirable credit risk."

Thus we have the problem presented as it will work out in war. With a gigantic conflict ahead, the nation that neglects its cost accounting will not be a "desirable credit risk." Men who have studied the keen terms of modern life know that they are accentuated by the extremities of war. Such should be enlisted in the work of organization and production of the needed material. If Great Britain's experience and advice are to go for anything, there will be a searching for more men like Hurley, Hoover and Goethels to supervise and control the mighty forces that are to be marshaled for the conflict.

Manganese Occurrences in the Savannah Valley.

Troy, N. C., April 28—[Special.]—Two interesting occurrences of manganese may be observed in the Savannah basin, on the opposite sides of the river of that name.

One is at the Magruder mine in Lincoln county, Georgia. This deposit is absolutely undeveloped, and nothing more can be seen of it than the bold outcrop, some little distance to the northwest of the mine works. The outcrop is in the form of pinnacles and masses, left projecting after the soft clay has been eroded from about them.

The Magruder mine is a copper mine that was described in the MANUFACTURERS RECORD a few years ago. It has been idle since 1908, but with the recent completion of the Washington & Lincoln Railroad to the boundaries of the mine tract, it is quite probable that the property will again be reopened.

The other deposit is across the river near McCormick, S. C., at the Dorn gold mine. The Dorn mine was originally worked for gold, and produced some remarkably rich ore. It is a pretty well established fact that more than \$1,000,000 were taken out.

The owner, Dorn, is supposed to have also worked the manganese, the ore having been ground fine and wagoned to Augusta, Ga., and shipped via the Savannah River.

The deposit is apparently a vein in the schist, and parallels the gold vein lying 300 feet to the southeast. Both veins trend northeast and southwest, and dip steeply northwest, conforming more or less to the country rock of the district.

The manganese vein is from 8 to 25 feet in width, and has been located for three-quarters of a mile by shafts from 20 to 80 feet in depth and by numerous pits. Development reveals solid manganese oxide in the center of the vein near four feet in width, with leaner ore on each side, that will require crushing and jigging to make a shipping product.

In 1911-1912 some development was done here, and four carloads of ore averaging 41 per cent. manganese were shipped. During 1914 the work was carried on by the Eureka Manganese Co., who shipped 18 cars, working in an extremely small way and picking over the old dumps taken out during previous exploratory work.

This deposit is apparently of value, and deserves further investigation in depth.

C. HAFER.

Industry of Rice Production in Arkansas Now Bringing \$6,000,000 a Year to Farmers

STEADY INCREASE IN PRODUCTION SINCE ESTABLISHMENT OF INDUSTRY
IN 1905—IMPORTANCE OF RICE AS FOOD EMPHASIZED BY PRESENT
WORLD CONDITIONS.

[Special Correspondence Manufacturers Record.]

Little Rock, Ark., April 27.

In 1905 Wm. H. Fuller of Lonoke county produced the first successful rice crop in Arkansas, 5225 bushels on 70 acres. Since that time production has steadily increased until in 1916 a crop of 6,312,000 bushels, worth \$6,100,000 to the farmers, was produced on 125,000 acres. With the exception of the year 1914, each season's acreage has been greater than the previous one. The year 1913 was the one adverse rice season, the crop being damaged by heavy storms during the harvest.

The following table gives the acreage, per acre yield, and total production since 1907:

	Acreage.	Yield per acre. Bushels.	Total production. Bushels.
1907.....	11,400	41.0	467,000
1908.....	28,000	40.0	1,120,000
1909.....	60,000	40.0	2,400,000
1910.....	71,600	39.0	2,792,000
1911.....	90,000	37.5	3,405,000
1912.....	104,700	36.0	3,769,000
1913.....	92,540	42.3	3,925,000
1914.....	100,000	48.4	4,840,000
1915.....	125,000	50.5	6,312,000

The year 1917 will show its increase, as drillers are being kept busy putting in new wells for irrigation.

Rice production in Arkansas is a business farmer's undertaking. Comparatively large capital is invested in lands and in expensive machinery, large areas are handled with machinery, and good profit is received where the business is rightly conducted.

With the addition of irrigation, rice is handled similarly to any other small grain crop. Irrigation makes larger capital necessary than with the small grain crops of the North. At the same time irrigation insures high yields and a net return greater than the gross income of the Northern grain farmer.

Failure in the rice-growing business has always been due to lack of close supervision and a tendency on the part of inexperienced men to plunge into the business on too large a scale. Plenty of capital and the best of equipment are essential. At the same time it is possible to overcapitalized and to put too much money into unnecessary or unserviceable equipment. In addition to the land, the average rice grower on 160 to 320 acres of land must have \$12,000 to \$15,000 in capital, invested in pumping plant, plows, harrows, grain drills, mules, harvesters and the cost of running the place.

The Arkansas rice-producing lands are all underlain with a tight subsoil or "hardpan." Prior to 1905, when the possibilities of the rice business were established, these flat prairie lands were considered of little value except for pasturage and hay. Frequent attempts to settle and place them under cultivation met with failure. The tight subsoil caused the soil to be either too wet or too dry. This hardpan that made the lands unfit for cotton and corn made them what are declared to be the best rice lands in the world, and today Arkansas rice lands sell at from \$40 to \$150 per acre, depending upon improvements and location.

While the principal rice district of Arkansas is in the prairie counties, especially Arkansas, Lonoke and Prairie, the rice area is being extended each year, the crop now being produced on the flat cut-over lands with tight subsoil, as well as on the prairies. Rice is planted in localities throughout the State, and even in Southeast Missouri, where large yields are secured.

The rice crop in Arkansas has gone through the period of exploitation that follows the introduction of any new crop into any section. Now, however, definite rotation systems are being established, good seed is used, and livestock is handled to consume what otherwise would be wasted. During the past few winters many cattle have been wintered on rice straw, coming through the season in excellent condition. Formerly this straw was burned in order to remove it from the fields. It is now being used also for the manufacture of strawboard, being shipped to Ohio strawboard mills in large quantities.

The water used in irrigating Arkansas rice fields is

for the most part taken from wells averaging slightly over 150 feet in depth. The average lift is about 60 feet. In order to be assured of a sufficient supply of water during the pumping season it is recommended that each 160 acres have a minimum capacity of 700 gallons of water per minute. At present much of the pumping is done by steam, although a large per cent. of the new outfits use oil engines, which do the work much more economically.

When a field is first prepared for rice the land levels are measured by an engineer and broad low levees established where necessary by back-furrowing. When the levels are once established they are followed in future years, the further employment of an engineer being unnecessary.

A main canal is also run from the pumping station in such a way as to carry the water to the highest points in the field. From these high points the water is easily conducted over the crop.

Frequently the field is flooded to germinate the seed, after which the water is withdrawn until the plants are about five inches high. The field is again flooded, and except for short intervals is kept flooded during the growing season. The pumping season covers about three months, the time during which the pumps are kept running varying from 50 to 75 days.

The preparation of the soil for rice usually begins soon after the previous crop is removed from the field. The land is plowed broadcast with gang plows, pulled either by mules or small tractors. Just before seeding time it is thoroughly disked and harrowed. The grain is drilled with 16-hole grain drills, a bushel and one-half to two bushels of seed being used on an acre.

After the crop reaches the proper stage of ripeness the water is withdrawn, the land allowed to dry out and the grain cut with binders and shocked in the field. Threshing is done direct from the field.

Arkansas rice ranks high in quality, the grains being flinty and attractive in appearance. Of the three varieties, Honduras, Japan and Blue Rose, the larger per cent. of the crop is in the Honduras, which seems to meet the market requirements. This variety also matures early, but yields less per acre. Blue Rose has been grown on a limited scale since 1914, but is rather late in maturing in this section. Many growers divide their acreage between the three varieties in order to lengthen the cropping season. Seeding begins early in April, and may continue as late as June 10.

The growth of the rice acreage has led to the establishment of seven mills in Arkansas and one at Memphis for handling the Arkansas crop. Three of the mills are at Stuttgart, the leading rice center, one at Lonoke, one at Carlisle, one at Wheatley and one at Weiner. At these mills the outer hull, bran coating and germ are removed and the rice polished for the market. A large portion is treated with glucose and talc in order to give it a higher polish. The by-products of milling, rice bran and polish are rich in protein, and are used as supplemental feeds for livestock.

In rice the South is producing one of the world's greatest staple foods, the cheapest source of energy for the human being today. The comparative energy value of the three foods, rice, corn and potatoes—rice 86.09 per cent., corn 82.97 per cent. and potatoes 32.24 per cent.—show that rice can be economically substituted for either corn or potatoes during the present food shortage. In the past, however, rice has been considered as a luxury by the American people, and for that reason the market has been limited. This led to the formation of the Southern Rice Growers' Association, which has stabilized prices and which at this time is doing much to popularize rice as a common article of food. When our people appreciate rice as a food there will be no market limit, and the growing output will play an important place in the food economy of the nation.

ROY G. BOOKER.

PRACTICAL CO-OPERATION WITH FARMERS AND STOCK-RAISERS.

Business Men and Bankers of Albany, Ga., Devise Excellent Plan for Encouraging Increased Production of Foodstuffs.

Atlanta, Ga., April 28.—[Special.]—John H. Mock, secretary of the Albany Chamber of Commerce, called at the offices of the Georgia Chamber of Commerce on Friday and gave out a statement relative to the progress Albany has made in providing a market for farm products other than cotton.

The organization which Mr. Mock represents has been actively at work on this proposition for the past 18 months, and his efforts have culminated in the organization of the Georgia Farm Products Co., a corporation composed of some of the leading bankers, business men and farmers of Albany, Ga. The plan of operation of this new enterprise, as outlined, is the most complete and comprehensive of any similar organization that has ever been attempted before in Georgia. Backed by unlimited capital, the Georgia Farm Products Co. will buy for spot cash any farm products that may be offered them, and are in position to advance money to farmers on products which they desire to store and hold for later sale.

The company will receive daily markets from Chicago and other points, and prices offered will always be in line with the prevailing markets on the day of sale. They contemplate the purchase of farm products in any quantity, from the smallest lots to carload shipments, thus enabling the small grower to find as ready a market for his produce as the carload shipper. Everything raised on the farm, including grain, hay, cattle, hogs, livestock and poultry will be handled by this concern, and they are now perfecting connections to handle fresh vegetables in season. In addition to the above, there will be operated a modern canning factory where fruits and vegetables will be preserved, thus affording an incentive for the farmers to produce crops of this kind.

The company intends to spend within the next 60 days about \$2000 in a campaign of education giving to the farmers the benefit of all the information that has been gathered with reference to the proper culture, harvesting, packing and marketing of farm products. Letters and bulletins of every description will be circulated throughout South Georgia, touching upon every phase of market problems, and daily quotations will be sent out from the offices of the company.

The Albany Chamber of Commerce has always recognized the great need in Georgia for an organization of this kind, and the present food shortage has emphasized the necessity for immediate action looking to a large increase in food production. While marketing organizations are already in operation in Georgia, it is said that none of these will be as completely equipped to handle every detail of this important work as the one which has recently been established in Albany. Ample facilities have been provided for the storage of grain and other non-perishable products with the idea in view of being able to store these products for the farmers and advance money thereon to those who, in their judgment, believe they should hold their products for better prices.

The stockholders of this Albany concern are all young and energetic business men of Albany, and they have gone into the game with the full determination of making this marketing organization the best in the South. Those who are familiar with the plans of the organization are most enthusiastic in their praise for the way its details have been worked out, and predict for this new concern much success in addition to its value to the farmers of South Georgia.

To Build Up and Augment Export Trade.

The U. S. A. Corporation of Chattanooga has been chartered in Tennessee with capital stock of \$200,000 for the purpose of building up and augmenting "export trade between States and nations." The incorporators are John L. Newkirk, Jr., George H. Patten, E. A. Wheatley, Z. G. Patten, Jr., and R. H. Williams.

R. Lee Mahuley and T. B. Marsh of Salisbury, N. C., and D. D. Campbell and William Bennett of New York have incorporated the Ivy Damask Mills, Salisbury, N. C., with a capital of \$50,000.

Increased Manganese Production Favored by Conditions in Virginia

AREAS OF MANGANESE OCCURRENCES IN THE STATE REVIEWED, WITH
SPECIAL REFERENCE TO THE JAMES RIVER DISTRICT.

By F. B. SPEED, JR., Mining Engineer and Geologist.

With the unprecedented demand for manganese ores in this country during the past two years, attention has naturally been directed toward Virginia as the region in which an additional domestic supply of this material should be sought, inasmuch as this State has in the past ranked foremost as a producer of manganese ores. It is well known that occurrences of manganese are rather widely distributed in this State, and that many of them have been worked more or less extensively during the last 40 years; but to one mine belongs the credit of placing Virginia foremost among the producers, namely, the Crimora mine, in Augusta county. Much has been written about the Crimora mine, and it is not the purpose of this article to attempt a further description of it, but rather to call attention to other localities where manganese is known to occur, and particularly the James River district.

The commercial sources of manganese ore are four in number, as follows: (1) Manganese ores; (2) manganiferous iron ores; (3) manganiferous silver ores; (4) manganiferous residuum from zinc roasting. The three first named are ores, the fourth being a by-product in roasting zinc from an ore containing zinc, iron and manganese minerals. In Virginia only sources 1 and 2 are important.

The manganese deposits of Virginia occur in both the Piedmont and Appalachian regions, and are confined to fairly well-defined areas, as shown on the accompanying map. The rocks of the Piedmont plateau are ancient crystalline and metamorphic rocks, in places altered to such an extent that their original character is indistinguishable. The principal types are schists, granites and gneisses, with smaller amounts of slates, quartzites and crystalline limestones. They are intricately folded, faulted and metamorphosed, forming a basement into which igneous rocks have been intruded. All of these rocks have suffered considerable disintegration and decomposition, the weathered zone reaching a depth of 150 feet and more in some localities. It is in this decomposed zone that many prospectively promising manganese deposits occur. Generally the surface material consists of unconsolidated sands and clays that retain to some degree the structure of the original rocks. The James River manganese area lies within the Piedmont province, and while not as extensive as the Appalachian manganese areas within the State, contains numerous occurrences of manganese ore, only a few of which have been developed to any extent. Transportation for the ore products of these occurrences would, in the main, be afforded by the James River division of the Chesapeake & Ohio Railway.

In the Appalachian region the manganese deposits occur in residual clays and sands derived from Cambrian, Ordovician and Silurian sediments. These occur-

rences are, however, largely confined to the western slope of the Blue Ridge, and are found in zones of folding of the more ancient Cambrian sediments. The sedimentary rocks dip in general to the west and northwest, striking northwest-southeast, parallel to the general direction of the mountain ranges. The principal ore deposits are in the area underlain by Cambrian shale, quartzite and limestone, and consist for the most part of masses of ore varying in size distributed through the clay and sand alluded to. The Crimora deposit is typical of the Appalachian region. In this region, besides the deposits of manganese ore, there are numerous deposits of manganiferous iron ore, and, in fact, all gradations occur, from pure manganese to iron-ore deposits in which manganese is either absent or present in negligible amounts.

While numerous so-called manganese mines have been opened in Virginia, but few of them have produced any considerable amounts of ore, or have experienced extensive investigation and development. In the Appalachian region among those worthy of mention are the Kendall and Flick mine in Rockingham county, near Elkton; the Midvale mine, in Rockbridge county; the Eureka mine, in Page county; the Lynchburg and the Vesuvius mines, in Augusta county; the Happy Creek mine, in Warren county, and the Kennedy mine, in Augusta county, now operated by the interests owning the Crimora. All of the above have in the past produced quantities of manganese ore ranging from about 1000 tons upward, but not all are worked at the present time.

In the Piedmont region the old Lehn property, now operated by the Consolidated Manganese Co., has easily been the largest producer. Located in Campbell county, and reached by a branch line to the Chesapeake & Ohio Railway about seven miles southeast of Lynchburg, the property has been operated intermittently since the early nineties by various corporations. In this period something more than 30,000 tons of washed ore has been produced from the property, and it is reported that the present operators are actively prosecuting development and mining. The ore here occurs at the base of the Loudoun formation, and in the form of kidneys or large

masses. Locally these masses may compose 80 to 90 per cent. of the ore-bearing layer.

At Otter River, in Campbell county, a similar deposit occurs on the Halsey property, which, while not so extensively developed as the Consolidated company's property, holds promise of producing a large quantity of manganese ore. The operation of the property is now being carried on under a lease by John B. Guernsey & Co. of Roanoke, Va.

As can be seen on the map, a number of other properties have been opened up in this district. In some instances the deposits have been found to be small and were quickly worked out, while in others the development has not been sufficient or of such a nature as to determine whether the deposit is sufficient to form the basis of a commercial operation. In view of the large areas within Virginia which are manganese-bearing, and also of the numerous localities within these areas where more or less manganese has been found, the possibility of developing an additional domestic supply of this material is probably better in Virginia than in any other State east of the Mississippi River. It appears, however, that such a supply can be developed by a systematic exploration of the manganese areas, and anyone undertaking this work may do so with reasonable assurance that his efforts will be rewarded perhaps by the discovery of one or more deposits of manganese ore of considerable size, but more probably by the development of more numerous smaller deposits the combined output of which will give a large supply of this material. By those prospecting for manganese in this region it should be borne in mind that the nature of the occurrences makes improbable the discovery of large quantities of ore high enough in grade to ship without some beneficiation; but this beneficiation of the ores, which consists of a comparatively simple scheme of washing to free the ore from clay and particles of rock in which it occurs, can be readily accomplished, and to him who locates deposits of sufficient size to justify the installation of the necessary equipment belongs the reward. Practically all the manganese ore produced in the State must be subjected to a washing process before it is ready for shipment, but the ores when properly beneficiated compare favorably in grade with the foreign ores, and the prices received by Virginia operators at the present price of manganese range from \$20 to \$35 per ton, which allows a large margin for profit, even though many tons of ore as mined must be treated to produce a ton of salable product.

Iron and Steel Institute Meeting.

At a recent meeting of the directors of the American Iron and Steel Institute, President Eugene G. Grace of the Bethlehem Steel Co. was elected a director of the Institute to succeed Mr. Frank S. Witherbee, deceased.

Arrangements were also made for the May meeting of the Institute, which will be held at the Waldorf-Astoria Hotel, New York city, May 25 and 26. The following addresses will be presented at this meeting:

President's address, by Elbert H. Gary.

"Recent Installations of Large Turbo-Generators," by Richard H. Rice, engineer, General Electric Co., West Lynn, Mass.

"The Chemical Reactions of Iron Smelting," by Walter Mathews, superintendent blast furnaces, Illinois Steel Co., South Chicago, Ill.

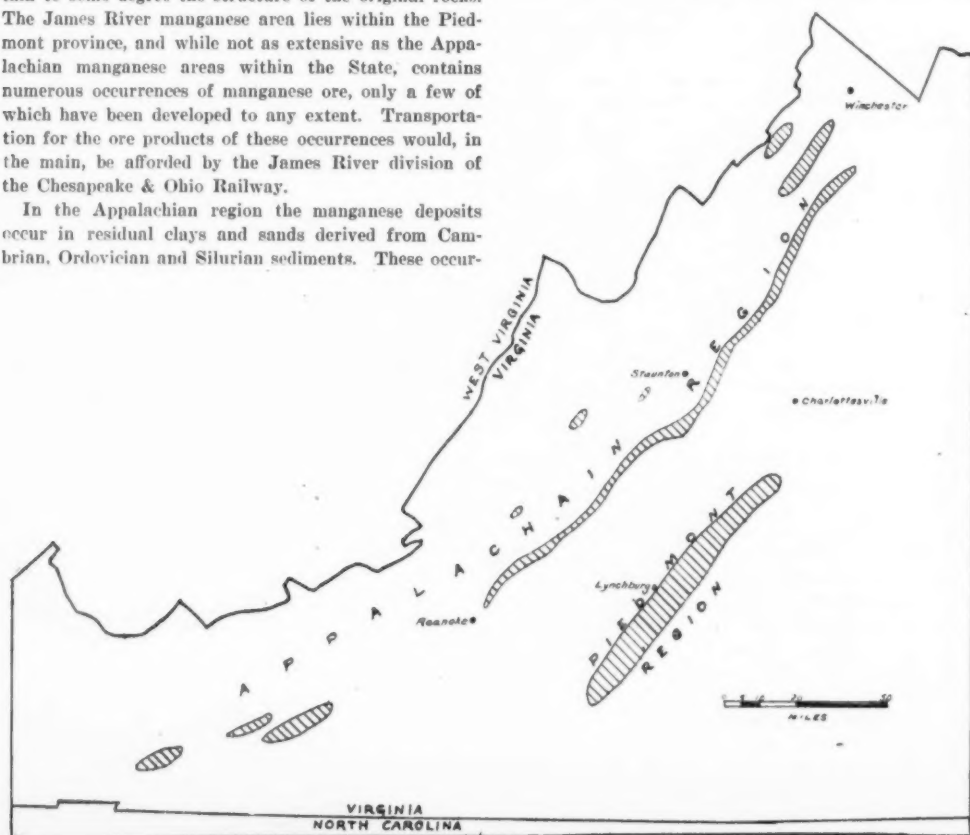
"The Manufacture of Steel Castings," by Robert P. Lamont, president, American Steel Foundries, Chicago, Ill.

"The Relative Merits of Forming Steel by Pressing, Hammering or Rolling," by John Lyman Cox, Midvale Steel Co., Philadelphia, Pa.

"Surgical Discoveries of the War and Their Application to Industrial Accidents, Humanitarian and Economic Features," by Dr. William O'Neill Sherman, chief surgeon, Carnegie Steel Co., Pittsburgh, Pa.

The Cotton Movement.

In his report of April 27 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 270 days of the season was 11,571,005 bales, an increase over the same period last year of 330,272 bales. The exports were 4,622,356 bales, an increase of 397,597 bales. The takings were, by Northern spinners, 2,308,046 bales, a decrease of 254,842 bales; by Southern spinners, 3,622,081 bales, an increase of 275,748 bales.



OUTLINE MAP OF MANGANESE AREAS IN VIRGINIA.

BUILD GREAT MILITARY HIGHWAY ALL AROUND THE NATION.

Suggestion for National Road Reaching from Maine to Puget's Sound and Back, Skirting All Coast Line and Northern National Boundary.

Pascagoula, Miss., April 27.

Editor *Manufacturers Record*:

The work of dredging the canal between the East and West Pascagoula rivers and through 5.20 miles of salt marshes for the new speedway from Mobile to Bay St. Louis and beyond is practically completed. At this writing there is only about 250 feet of dredging to be done, when that part of the work will be finished. There will yet be some work to complete on the bridge over the West Pascagoula River and a trestle through a lake in the marsh. The contract for building and operating the ferryboat over the East Pascagoula River will be let by the Board of Supervisors May 7. Until the ferry is ready private ferries will serve the needs of the public. It can be confidently stated that the speedway will be ready for traffic on or before July 1. Information received here shows that the work of dredging through the Louisiana marshes north of the Louisville & Nashville Railroad for a speedway from New Orleans to Bay St. Louis is being pushed forward rapidly and will soon be completed. A great bridge, some 2.50 miles long, will be built across Bay St. Louis, connecting that city directly with Pass Christian. The route now goes around the north of Bay St. Louis a contour of some 15 or 20 miles. All of this work, it is expected, will be completed before the beginning of a new year. The completion of this link at Pascagoula and Bay St. Louis will give a connected speedway from Tallahassee, Fla., to New Orleans, La.

April 26 John F. Craft of Mobile, a well-known good-roads enthusiast, and Mayor Lowery of Tallahassee, Fla., came to this city in motor cars. The purpose of the visit was to see what work is being done on the roads and to endeavor to rouse the people of the Gulf coast to taking immediate action in urging Congress to convert the speedway from Tallahassee to New Orleans into a military highway. This speedway is what is known as the "Old Spanish Trail," and runs from St. Augustine to New Orleans, and to the writer at least it seems incredible that the public should need arguments to convince it of the correctness of Mr. Lowery's position. That the United States should establish, and as speedily as possible, a military highway extending from ocean to ocean, that is, from the Atlantic via the Gulf coast through Louisiana, Texas, Arizona and New Mexico and California to the Pacific coast. The cost would be immense, but the economy of it enormous.

One need not be a professional strategist to comprehend that if during this war Germany (or some other and now not known foe) should be able to make an attack upon the United States, that attack will fall either upon one of our seaboards or across the Rio Grande, and then it will be necessary that this nation will have at its command every facility for the transportation of troops and supplies to that portion of our extended seacoast that may be threatened; and for this purpose improved speedways that permit the uninterrupted travel of motor cars and trucks are an important, nay, indispensable adjunct to rivers and railways.

One of the important lessons taught us by history is that the Roman Empire was able to subject and keep in subjection for more than six hundred years the greater part of the then habitable world by the magnificent system of good roads that she built throughout her empire, by the means of which she kept communications and was able to rapidly transmit troops to the most distant parts, such roads being also highways for commerce. It was the magnificent system of highways in France that enabled Prussia to speedily crush France in 1870, and it was the same magnificent system of highways, correlated with motor cars, that enabled Marshal Joffre in 1914 to win the decisive battle of the Marne and save France and civilization from German autocracy and militarism.

The making of the "Old Spanish Trail" from St. Augustine to Los Angeles a military road under the control of the National Government is not a matter of

sentiment, but a military necessity. The old stock argument that the nation will never need such a highway recalls the answer made by a Texan when chaffed with carrying his gun for 30 years and never having any use for it. "It's true, I hain't never had any use for it, but when I needs it I am going to need it right bad, en I wants it handy."

Military roads, like military defenses, should be placed on the Atlantic and Pacific seaboards first, as those points will be the points from which the foreign foe will assail us. I for one unhesitatingly predict that there will never again be any danger that the two great English-speaking nations will be arrayed against each other in bloody antagonism. In the future they will be found as now, fighting side by side for freedom and civilization.

If this great project is to be carried to a successful conclusion the citizenry of Florida, Alabama, Mississippi, Louisiana, Texas, Arizona, New Mexico and California must unite in making a strenuous effort to secure from Congress the legislation necessary to make this project feasible.

The writer goes farther than either Mr. Craft or Mr. Lowery in the advocacy of a military road. In his judgment, such a road should commence on the northern boundary of Maine, and following the coast line as near as practical down the Atlantic to the Gulf of Mexico, thence along the Gulf coast through Florida, Alabama and Mississippi, Louisiana and Texas; then bordering the Rio Grande and northern boundary line of Mexico through Arizona and New Mexico to the Pacific; thence northward to the Columbia River and Puget Sound; thence eastward across the Rockies and by the Great Lakes to its starting point in the woods of Maine.

In many sections of this country an extended system of highways that are in close proximity to the coast line have already been built and are kept up to a high state of efficiency, and it is only needful that the National Government take them over and, giving them such connecting links as may be necessary, maintain them. The annual cost of maintaining such a system of national highways will hardly exceed the cost of a new first-class battleship. The construction of the connecting links to such an "around the nation highway" will be only a small percentage of the amount the National Government must expend in preparing a system of coast defenses that come up to the requirements of 1917 warfare, and then in present-day warfare, as in ancient warfare, a system of good roads is absolutely essential to the complete efficiency of a defensive or offensive military force. Without such a system of highways an army is robbed of much of its mobility and is greatly hampered in the rapid transmission of men and supplies to such points as the exigencies of the national defense may require.

The great military roads built by Caius Gracchus from Rome 121 years before the birth of Christ will exist as an everlasting monument to the genius of their projector.

CHAS. E. CHIDSEY.

SOUTH MARKETING EARLY CROPS OF VEGETABLES AND STRAWBERRIES.

Large Onion Shipments from Texas—Florida Potatoes Moving Freely to Relief of Shortage That Prevailed.

The condition of the Texas Bermuda onion crop, estimated by the truck crop specialist of the Bureau of Crop Estimates in a report issued at Laredo, Tex., on April 4, 1917, at 68.5 per cent. of normal, forecasting a yield of about 246 crates per acre, or a total production of 2,964,300 crates, the equivalent of 6388 cars of 464 crates each.

From a large number of reports received from all parts of the Bermuda onion district it appears that the condition of the crop on April 15 was 67.8 per cent. of a normal crop, a decrease of less than one point as compared with April 1.

On April 19, 179 cars of onions were shipped from Texas, the largest shipment of Texas onions that has ever been made on one day, as far as known. The largest number shipped on any one day last year was 119 cars, or 60 cars less than the new record.

Altogether 1367 cars of onions have been shipped from Texas during the present season. Compared with shipments to the same date last year, this is a decrease of 670 cars. However, shipments during the six days of

April 15 to 20, 1916, amounted to only 434 cars, whereas 713 cars were shipped on the same six days in 1917.

During the past week shipments of new potatoes from Florida have increased from 15 or 20 cars per day to 53 cars shipped on April 18, 73 cars on the 19th and 96 cars on the 20th. It is believed that the rapidly-increasing shipments from Florida will help to relieve the shortage of the 1916 potato crop. The total shipments of both old and new potatoes from April 1 to April 20 this year totaled 5072 cars.

Compared with 1916, tomato shipments from Florida for the period April 1 to 20, 1917, were 225 cars, or less than one-sixth of the number of cars shipped in 1916. The total shipments from Florida for the same period in 1916 were 1457 cars.

Shipments of strawberries from Florida, Louisiana and other Southern States for the period April 1 to 20, 1917, compare favorably with the shipments of strawberries during the same period of 1916, the total shipments being 680 cars and 688 cars, respectively. Of the total number, Louisiana shipped 437 cars in 1916 and 423 cars in 1917, and Florida shipped 113 cars in 1917, as compared with 145 cars in 1916 during the same 20-day period.

INCREASED PRODUCTION OF ROCK PHOSPHATE.

Figures of United States Geological Survey Show Partial Recovery from Severe Curtailment of 1914-15.

The production of rock phosphate in the United States, which was curtailed in 1914 and nearly cut in half in 1915, made a partial recovery in 1916. According to figures just compiled by the United States Geological Survey, Department of the Interior, from reports received from all active producers in the country, the total quantity of phosphate rock sold in the United States in 1916 was 1,982,385 long tons, valued at \$5,896,993, as compared with 1,835,667 long tons, valued at \$5,413,449, in 1915. This is only about two-thirds the normal production of the country.

The quantity of domestic rock phosphate exported in 1916 was 242,989 long tons, valued at \$1,150,026, only 9000 tons less than in 1915, but only about one-fifth of the quantity exported in 1913.

Florida produced 47,087 tons of hard-rock phosphate (including several thousand tons of soft phosphate), valued at \$295,755, and 1,468,758 tons of land-pegble phosphate, valued at \$3,874,410, making a total of 1,515,845 tons, valued at \$4,170,165. This was a decrease of 3000 tons of hard-rock phosphate from the production of 1915, but the increase in price per ton made a gain of \$30,000 over the total value of hard rock in 1915. There was a distinct increase in the quantity and value of land-pegble phosphate over the previous year.

South Carolina produced 53,047 tons, valued at \$211,125, as compared with 83,460 tons, valued at \$310,850, in 1915. This is less than one-half the quantity and value of the production of 1913.

Tennessee produced 364,108 tons of brown-rock phosphate, valued at \$1,357,888, and 47,682 tons of blue-rock phosphate, valued at \$152,465, making a total of 411,790 tons, valued at \$1,510,353. These figures include a small quantity of brown-rock phosphate from Kentucky. This is an increase of about 22,000 tons over the production of 1915.

In the Western States there was a production of rock phosphate from Utah and Wyoming only, Idaho having dropped out of the list of producing States. The quantity produced in these two States in 1916 was 1703 tons, valued at \$5350, or less than one-half the quantity and value of the output in 1915.

The advance in the price of phosphate in fertilizers so far in excess of the advance in the price of the raw phosphate rock is explained by fertilizer manufacturers as due to increased cost of the sulphuric acid used in the treatment of the raw ground rock.

It is predicted that the partial recovery of the rock phosphate industry in 1916 will be followed by a greater gain in 1917.

The Paul Knitting Mill, Pulaski, Va., plans to build additions for knitting department and to equip a dyeing plant.

News and Views from Our Readers

How to Develop Intelligent Patriotism.

RICHARD W. EDMONDS, Atlanta, Ga.

There is in this country a distressing lack of patriotism. Among college-bred people patriotism runs high. The lower down we go in the scale of education the less patriotism we find. Of course, there are unpatriotic people among the most highly educated, though they are very rare, and intensely patriotic people among the most ignorant classes. I am not talking about them, I am talking about the rule, not the exceptions.

This fact naturally suggests a remedy for the lack of patriotism in this country. It is education; the inculcation in everybody in this country of admiration for the nation, based on actual knowledge. I do not mean by this the thoughtless repetition of the idea that the United States is the greatest nation on the globe; that it is invincible, and is superior in every respect to every other nation. That idea has already been too widely disseminated and too generally believed. It is largely responsible for our present state of unpreparedness. I mean instruction in the ways in which America really does excel, and in the ways in which America should excel; in other words, simply honest and impartial instruction in the international situation. There is a bureau in Washington, a part of the diplomatic service, I believe, whose business is to take the information sent in by our diplomats, put it into usable form for our business men and give them any of it they want when they write for it. Why couldn't the information of this bureau, or such of it as is suitable for the purpose, be put into readable and attractive form for use in our grammar and high schools, in colleges and by men and women who have finished college, or simply want to keep up with current events? It would be authentic, it would be systematic, it would be uniform throughout the country, and it would be kept up to date.

Our patriotism may never attain the heat of the patriotism of the European nations, for that heat is generated largely by constant friction with other nations. Moreover, our patriotism is constantly being diluted by the steady influx of foreigners. However, this country is constantly coming into closer contact with the European nations. This fact will both demand more patriotism of us and fan the flame of patriotism. But this is not enough. Patriotism should be carefully and systematically taught (not by talking about patriotism, but by education), and the National Government is certainly the agency to supply the information. I do not suggest that we have Federal laws requiring the use of the information in the schools; that would probably be unconstitutional—I don't know about that. But that would not be necessary. The provision of the information is the main thing; lots of people are eager for something of the kind.

This is an important work that has been too long neglected. It has been left to chance and a few well-informed and broad-visioned men whose occupations enabled them to learn facts about different phases of our national development and international relations, and whose patriotism prompted them to write about them. Naturally, no one of them has ever been able to cover so vast a field. There has been no co-operation between them, and no plan of action. There has been no one medium for the dissemination of this information. It has appeared at irregular intervals and in various periodicals and dailies, and we run across the various articles purely by chance. The great majority of the men and women who read the articles have no way of knowing how authoritative they are, or whether they were inspired by the interests exploited by them. In many cases articles are contradictory, and nobody knows which are correct.

Our diplomatic service collects information from every part of the world. It is accurate and exhaustive. From it could be drawn interesting comparisons of our development along many lines with the development in different foreign countries along the same lines. Such information could be made very interesting if the proper men were employed to write it up. It could be put into attractive form, and would be made a valuable addition to any library.

It seems to me that this idea is well worth an editorial. Of course, it would not do much to help the con-

duct of the war, but it would be of great value after the war, when we are engaged in an industrial war with impoverished Europe.

Believes Freight Rates in South High Enough.

C. W. HOWARD, Chattanooga Industrial Board, Chattanooga, Tenn.

You quote President Harrison of the Southern Railway in a statement recently made to the Interstate Commerce Commission that "the South grows faster than its railroads." Any statement coming from an authority so eminently high should ordinarily be taken without question. If by that statement President Harrison means that the railroads are handicapped by short earnings from making needed extensions, I think there should be a further explanation.

The earnings of the railroads of the South compare rather favorably with those of other sections. One of Mr. Harrison's own lines is very near the top of net earnings per mile. The carrying cost to the producer in the territory covered by Mr. Harrison's line, as well as other Southern lines, head the list, with the possible exception of a few lines west of the Rocky Mountains. In other words, the South is already paying from 25 to 30 per cent. greater carrying charges than the North and East. The argument of traffic managers of Southern railroads is that their charges must be higher than lines North and East, because of the smaller tonnage, ignoring the fact that lines North and East increased their tonnage and earnings by first decreasing the carrying charges.

The great tonnage-producing power of the North and East was brought about not only by service but by economy service, enabling the manufacturers to gather their raw material from the four quarters of the globe, put it into a manufactured article, and then hand it back to the inhabitants of the four quarters, all at a minimum carrying charge.

No section can greatly prosper with indifferent railway facilities; ours is unusually good, the service would be difficult to improve on, but it is a fact that there are very few miles of single-track railroad in the South that is loaded with all of the traffic that it can stand.

A merchant who hopes to increase the volume of his business by increasing his prices will not live to see that hope fulfilled. There is a strong sentiment South that Mr. Harrison's line as well as other Southern lines are receiving their full share of the cost and profits in the work of producing and marketing the wares of the South.

Plenty of Lumber on South Atlantic Coast for All of Government's Thousand Wooden Vessels.

ALBERT M. SMITH, Secretary the Board of Trade, Brunswick, Ga.

Dispatches from Washington recently quoted Chairman William Denham of the Federal Shipping Board as saying that the supply of lumber on the North Atlantic coast was so insufficient as to make it necessary to build most of the thousand wooden merchant vessels for which the Federal Shipping Board is letting contracts on the Pacific and Gulf coasts, where lumber is more plentiful. Apparently neither the writer of the dispatch nor Chairman Denham, if he was fully and correctly quoted, took into consideration that the South Atlantic ports are as well fitted to build wooden ships as the Gulf ports, or that they can be built as economically, cost of labor and delivery of vessels to the Government considered on the South Atlantic as on the Pacific.

There is sufficient pine lumber available in the trade territory of every one of the South Atlantic ports to build the entire thousand vessels without overtaxing the mills. Certainly oak is as plentiful as on the Gulf coast, and probably more so than on the Pacific.

Pine, and also cypress, may be had as cheaply as anywhere at Brunswick, and can be gotten from mills so near as to make the cost for railroad transportation very small. One large lumber mill in Brunswick is located between two shipyards, and this mill gets its timber by rafting only about 12 miles. The supply of both live oak and white oak nearby to the shipyards at

Brunswick is practically unlimited. The shipbuilding plants here get nearly all of their oak needs and timber by water from points only a few miles away, some of them right on the harbor. While it is true that there is much more oak near to Brunswick than any other Southern port, there are sufficient quantities available at low cost at all Southern ports. Without taking into consideration the cheaper labor available in the South, or the fact that work can be carried on in the open air the year around, the fact that most, if not all, of the lumber for building ships must be brought from these same Southern ports in the holds of vessels to Eastern ports accounts fully for the lower cost of constructing vessels at Southern ports and the predominance of the Southern ports over New England in wooden shipbuilding today.

Enlistments Affected by High Prices of Foodstuffs.

GERARD TETLEY, Danville, Va.

A growing restlessness among wage-earners regarding the continued weekly increases in the cost of food products has become marked, and may be even said to overshadow interest in the varied phases of the war. It is highly probable that a call to arms to eradicate the food graffer would meet with a more general response than has the call to the colors in the national crisis. Mill workers, clerks in stores or in general terms men and women who live from hand to mouth are more deeply affected than those whose bank balance preclude actual anxiety over the cost of living. There is a general demand among these people that Congress take some action looking to fixing of reasonable prices of foods until the present tumultuous times have passed by.

Action by Congress with regard to food prices, according to the views of some, would reflect in the recruiting offices to better advantage. While undoubtedly ignorance of this country's role from a military point of view in the war is causing apathy in enlistments, it is certain that many men of this community—and this community is doubtless typical of many other Southern towns—would respond more eagerly had they the assurance that their wives and children when left alone would not have to pay exorbitant prices for their daily bread.

Strategic Repair Stations of First Importance.

O. B. KAMP, Fort Lauderdale, Fla.

The article written by your correspondent on the need of naval foundry equipment suggests years of shipbuilding construction in such heavy terms as 50 to 100 tons, and very large castings, while apparently the great demand which the naval officers' report would indicate is a lack of proper facility for construction and repair of damaged ships already in the service.

The real strategic value, of course, lies just here, so that even a crippled or damaged navy might be recuperated in a very short period of days or weeks, while a great fleet in the course of construction could become the prize of the enemy in case the first line of defense was speedily broken.

It would seem, therefore, that proper emphasis was made in recommending strategic repair stations for ships, with drydocks, if necessary.

Young Men Urged to Buy Land and Raise Something to Eat.

L. C. GREEN, Atlanta, Ga.

What the South needs mostly is for such papers as yours, and, in fact, all leading papers, to do "team work;" not individually, but collectively, and let your cry be, "buy land."

We have the climate, we have water, we have all kinds of soil adapted to all and every kind of fruit, flower or vegetable. What we need is to awaken the young men of the South to the importance of land, to buy land now, to buy it while they can get in on the ground floor!

There are too many young able-bodied men working in stores, factories, offices, who merely exist, not know-

ing at what hour they will be let out. A fellow who is in possession of a tract of land and will use common sense and energy is bound to succeed.

Let him grow something, plant something, that will benefit himself, besides contributing to his fellow-man.

What we need in Georgia is training our young men as farmers. The cities are flooded with lawyers, doctors, clerks, bookkeepers and artisans of every description. And they, as well as you and I, have to eat, and without land where will these people get something to eat.

Therefore, I personally plead with our young men to buy land. Why? Because land is safe, sound, and with common sense and labor, land well fertilized will pay big dividends, besides helping feed the multitudes.

Lamentable That One of So Narrow View Should Hold a Governor's Place.

MARK NABORS, Mark Nabors & Co., Atlanta, Ga.

I have just read, with keen disappointment, the letter which you published from Governor Catts of Florida. I say disappointment because I can't understand how anyone, and especially one with enough intelligence to be the chief executive of a portion of our great country, could fail to appreciate the highly patriotic position that the MANUFACTURERS RECORD has always held; also the fact that had there been more attention paid to the articles published in the MANUFACTURERS RECORD by our executives, both State and National, for the past three years there would have been no occasion for our sudden alarm, caused by our unprepared condition. And it is especially a keen disappointment to learn that a letter of this tone should come from the South, realizing the tremendous good that the MANUFACTURERS RECORD has done and is doing for the development of the South through its untiring and ceaseless efforts in behalf of this section.

It is quite evident from the tone and character of Governor Catts' letter that the only article he has ever read in the MANUFACTURERS RECORD is the article which contained his well-earned criticism. It is alarming that a single executive of our great country should fail to fully realize the perilous conditions which have confronted us for the past three years; but it is lamentable that so highly responsible a position as Governor should be filled by one who would take such a narrow view of a question of such tremendous importance to the well-being of the country as Governor Catts has taken.

Wants Government Inspection and Regulation of All Dams.

J. G. PHILLIPS, Cornelia, Ga.

Of late you have written so much on preparedness and have shown your fairness and honesty in your desire to help build up the South that I have hesitated to ask you to express yourself on the building of dams by companies or private individuals. Don't you think when a company or private interest wants to build a dam that they should be compelled to get a permit from the Government and then build under the inspection of a Government engineer? So many dams give way and destroy life and property that I think this should be done.

I will not try to express my appreciation of any of your letters except your answer to Florida's Governor, your answer being "Poor Florida," which I think is a complete answer.

University of North Carolina's Great Work for the State.

GEORGE STEPHENS, President American Trust Co., Charlotte, N. C.

Permit me to commend most heartily your article in the MANUFACTURERS RECORD of April 12 with reference to the University of North Carolina. It is very gratifying to have Dr. Graham's work find recognition in such places as your editorial sanctum, and even more gratifying to have the truth spread broadcast through your widely-read columns. Dr. Graham has aroused as no other educational leader has been able to do in North Carolina the interest of all right-thinking citizens in

the State's educational work along broad, constructive lines.

Please accept my thanks as an alumnus of the university for the favorable publicity that you are giving its worthy work. I have been a trustee of the institution for 15 years, and I can say with all truthfulness that the performance of a dollar in the scant funds available for its support is nothing short of miraculous. At Chapel Hill is focused the best thought of trained men on all of the State's live problems, and from Chapel Hill radiate influences that are giving the people a new vision and moving them to finer and better effort. Dr. Graham is the personality about which all of this is centered, and his bigness is in the fact that he is able to multiply himself through the group of earnest and high-minded men who compose the faculty.

Boll-Weevil Menaces Georgia's Sea-Island Cotton Production.

REV. ALEX. W. BEALER, Valdosta, Ga.

Valdosta is the center of one of the largest, if not the largest, long-staple market in the world. In the neighborhood of our city about 20,000 bales are raised and marketed every year. I understand that there are about 4000 bales that have been produced on irrigated lands in some parts of Arizona.

The situation as to the long-staple cotton is rather panicky here at present, and there is no telling where the price may go by next season. Toward the close of the last season the boll-weevil made its appearance and did a little damage. The farmers have been repeatedly warned not to plant heavily this season, but most of them have disregarded the warning and have as large an acreage as they had last year. The boll-weevil has made its appearance among the young plants and has already done some damage, although they say it never works until the boll has formed. The appearance of the weevil in such large numbers, this early in the season has caused about one-tenth of the crop to be plowed up and food crops have been put in its place. The leading sea-island buyer in this section, Mr. A. J. Strickland, says if a crop half as large as was made last year is made this season it will surprise him, as he looks for a very large amount of damage to be done by the weevils.

A strong effort is being made, with some success, to get the farmers to plow up some of the cotton that is already planted and put food crops in its place. We are raising down here more Irish potatoes and peanuts than ever before in the history of the county. This, I think, is true in all this section of Georgia.

To Meet the Shortage of Pyrites.

THREEFOOT BROTHERS & Co., Meridian, Miss.

We are in receipt of yours of the 19th, which is noted with interest; also the article in your issue of April 19, and we fully realize the conditions from actual experience, as we are interested very much in fertilizer manufacturing plants in this State and also in Louisiana. They, fortunately, have provided for the Louisiana sulphur, not being able to secure the pyrites for manufacturing their acid phosphates, and it is very probable that the importation of nitrate of soda will be reduced materially, although this last season it was exceedingly high, on account of the limited supply. Therefore, we consider it very important and urge the Government, as early as possible, to erect a nitrate plant, as has been proposed, as that is as important as the equipment of boats or ammunition plants, for we must produce crops to enable our forces to do their duty, as well as supply the Entente Allies with the food they may need.

We think the farmers should be advised of conditions and prevailed upon to plant more than the usual amount of peas, beans and clovers to restore to the soil the nitrogen that is necessary and that may be lacking on account of the shortage of the commercial nitrogen.

Opening for a Cotton Gin.

C. H. CLEVELAND, Secretary Commercial Club, Skiatook, Okla.

The town of Skiatook is offering a splendid opening for a cotton gin, as several hundred acres of cotton will be planted here this year.

NORTH CAROLINA'S PROGRESS IN HOME PRODUCTION OF FOODSTUFFS.

Great Increase in Planting of Potatoes—Banner Section in Way of Home Production of Meat, Corn, Etc.—Soy Bean Acreage to Be Largely Increased.

Greenville, N. C., April 28—[Special.]—Eastern North Carolina is surely going to smash any record since the Civil War days in raising food crops this year. This particular section has been a big offender in the purchase of millions of dollars' worth of food supplies for man and beast from the North and West, instead of being a producer. It was ascertained today from railway experts that in the one county of Beaufort alone there are now at least 5000 acres in Irish potatoes, and that the yield will be from 60 to 100 barrels, of 10 pecks each, to the acre. Digging will begin by May 10 and will be finished by June 20. Then the land will be planted in corn and sweet potatoes almost entirely. One merchant bought 4000 bushels of seed potatoes, these grown in Maine, for planting at \$8 a barrel.

Aurora is a notable potato center and so is Powell's Point, which is not many miles from Roanoke Island. It is found that many people from the North have bought what is known as Irish potato land in the region near Aurora, and these new owners are making arrangements for farming the land on shares, the owners furnishing the land and the seed potatoes and the necessary fertilizers and guaranteeing to those co-operating \$2 a barrel for their share. It is learned from the railway experts, who keep in the closest touch with this matter, that 60 per cent. of the potato crop is thus sold in advance at a fixed price before it is even planted. When the experts were asked what they thought of the prices this year they replied that last season potatoes began selling at \$4 to \$6 a barrel of 10 pecks, and that no one expects them to start this year under \$6. It is an axiom among the growers in this part of the country that as the price of seed potatoes so is that of the crop.

The writer called the attention of the railway experts to the fact that this year some of the high mountain counties in North Carolina will have seed potatoes for sale equal to the ones grown in Maine, and that Alleghany county is making a great feature of this particular business. Every one of the 1800 farmers of that county will plant potatoes this year. The elevation is 3000 feet or more above sea level, and conditions are ideal for the potato, as they are also for cabbage. As one who knows that high mountain region thoroughly, I can say that the potatoes and the cabbages there grown are not surpassed in the United States.

As is well known, the MANUFACTURERS RECORD has for years strenuously and powerfully preached the gospel of the raising of food crops in the South for all home purposes and for sale. It is cheering to record that there is on the 40-mile stretch of railway between Washington, N. C., and Vandemere a region where year after year surplus meat and corn is shipped out in really large quantities after all home requirements have been met. This particular stretch is on the Atlantic Coast Line Railway, and one of its officials tells the writer that he is sure no other stretch on any of its lines in the South has such a record. It is a yearly movement.

Inquiry made as to soy bean planting brings information that where last year samples were shipped carloads are now going out. It is further stated that the selling value has increased 75 cents as compared with this date a year ago. Interest in soy bean culture was never so great, and the demand is heavy. FRED A. OLDS.

Planning \$1,000,000 Electric Station.

A steam-driven electric generating station to cost \$1,000,000 is planned by the Appalachian Power Co. of Bluefield, W. Va., this new plant to be located on the New River, between the Virginian and Norfolk & Western railways. The equipment will include an 18,750-kilowatt turbine, three 1200-horse-power boilers, etc., and the plant may furnish electricity for the proposed Virginian Railway electrification at Clarks Gap and for the proposed extension of the Norfolk & Western Railway electrification east of Bluefield. Herbert Markle, general manager of the Appalachian corporation, advises the MANUFACTURERS RECORD that an 18,750-kilowatt turbine and boilers have been purchased for this plant in order to ensure delivery when needed, but that other details have not been and may not be decided upon for some months.

South's Oldest of All State Universities Pervaded by Spirit Essentially Democratic

AT UNIVERSITY OF GEORGIA, CHARTERED IN 1784, NEARLY HALF OF STUDENTS ARE PAYING THEIR OWN WAY—70 PER CENT. MEMBERS OF CHURCH—SELF-GOVERNMENT FEATURED IN MANAGEMENT OF STUDY BODY—BROAD EXPANSION OF EDUCATIONAL ACTIVITIES OF UNIVERSITY.

By THOMAS W. REED, Registrar University of Georgia, Athens, Ga.

The University of Georgia is the oldest of all the State universities, having been chartered in 1784 and having been opened to the young men of Georgia in 1801. Its services to Georgia and the world cover considerably more than a century. During that period of time its influence has very largely molded the sentiment of the State and its graduates have in large measure made the history of the Commonwealth.

The ideals, the teaching, the achievements of the University have always been essentially democratic, and therein may be found the best and the most enduring service it has rendered and is still rendering the State. Its doors have always been open to the aspiring and determined student, from whatever station in life he might come. It has never been the college for the rich man's son alone. More than eight decades ago Alexander H. Stephens, later on Vice-President of the Confederate States of America, was sent through the University by a band of noble women. He was simply a type of many others in those days. Today there are scores who are struggling through with little more than grit and determination. Out of the present enrollment of 727 students in this institution, 335 are paying their own expenses, having earned the money or having borrowed it, to be repaid later from earnings. There is no grip of the moneyed aristocracy on this institution. From such young men, willing to work hard and sacrifice in order to complete their education, Georgia and the world may expect much in the future.

On the campus, in the classrooms and in the homes of the city our students live a democratic life. The cultured and the uncultured, the rich and the poor, the boy from the city and the boy from the country, mingle on terms of perfect equality and loyal friendship. They realize that they are all citizens of Georgia, and that out yonder in the future they have the work of men to do that their State may grow and prosper and maintain her high station in the sisterhood of American Commonwealths.

They are thoroughly representative Georgia boys. They come from every section of the State. A comparatively small number are from other States. Of the 152 counties in Georgia, 128 are represented in the enrollment of students here. They come from farm and workshop, from village and city, from mountains and lowlands. Much has been seen in the public prints about the mountain section of Georgia and its great need for better educational facilities. Those facilities are being furnished in various ways, and out of that section of the State this year come 35 students to the University of Georgia. They are among our most energetic and most determined students. Illustrative of the democracy of the students are the following figures showing the vocations of their parents: Farmers, 218; merchants, 103; physicians, 38; lawyers, 52; teachers, 15; bankers, 22; manufacturers, 21; Government officials, Federal, State and municipal, 32; bookkeepers, 5; salesmen, 15; real estate, 19; railroad, 19; civil engineers, 4; cotton factors, 13; ministers, 8; insurance, 9; contractors, 4; hotel-keepers, 3; mechanics, 6; journalists, 5; the remainder being widowed mothers or retired business men.

That the University of Georgia students have had good home training and have started out along the right path is shown by the fact that more than 70 per cent. are members of the church. The church preferences of the students are as follows: Methodists, 249; Baptists, 241; Presbyterians, 108; Episcopalians, 38; Catholics, 17; Disciples, 22; Jews, 18; Congregationalists, 2; Lutherans, 1; Unitarians, 1; Christian Science, 1, the remainder expressing no preference.

The interest of both faculty members and students is keen in matters religious. A large number of members of the faculty are church officials and teach classes in the various Sunday-schools, while probably one-third

of the entire student body attend regularly these Sunday-schools. The Y. M. C. A. activities of the institution are marked. The promotion committee of this institution, consisting of more than 50 students, holds regular weekly meetings, and the general devotional meetings of the association are attended by hundreds. While the faculty holds a general supervision over the students, the greater part of the management is under self-government custom and rules. In recent years the rougher sports of the students have been almost entirely eliminated, the discipline of the institution has immensely improved, the high purposes of the students as contrasted with frivolous and unworthy actions have been made more manifest, and the general conduct of the student body has been exemplary.

There is a steadily increasing purpose on the part of the students to attain to higher scholastic standards. This has been emphasized by the establishment here of a chapter of Phi Beta Kappa and Alpha Zeta, the honorary societies whose membership is based on student scholarship records.

There is an increasing interest in everything looking to the physical development of the student and the care of bodily health. Athletics, under careful supervision, are made to serve in every way effectively. Physical examinations, careful nursing, infirmary facilities, daily reports on health to faculty authorities safeguard the physical condition of students.

It has ever been the effort of the University authorities to keep the educational training here offered within the reach of boys with little financial means. To this end the college dining hall, run under the supervision of the Dean of the University, gives to several hundred students their meals at \$11 per month, and they are good, wholesome meals, too. Dormitory rooms cost but \$3.50 per month for rent, fuel, lights, water and servant hire. In this way a college education is easily placed in reach of the boy of moderate means.

Nothing but loyalty to the nation is taught here. Along with the highest and best ideals of the old South go the visions of the new South so eloquently pictured by Henry W. Grady, native of Athens and alumnus of the class of 1868. And yet the institution makes no apology when it lays an extra stress upon Georgia, her history, her resources, her needs, her development and her advantageous offers to her sons in every line of endeavor. The Wimberley J. De Renne chair of Georgia history in the University attests this interest and the determination that the sons of Georgia shall know the history of their State, with all due reverence for its illustrious past and ample inspiration for the bright and useful future.

The central institution in Athens and its several branches, located in other cities, emphasize the duty the young men and the young women owe to the State. The resources of Georgia are almost illimitable, but they are largely undeveloped. When the day of full development comes will it find the sons of Georgia in command or will they be working under the direction of those who have been attracted from other sections of the country? The University and its branches are year by year preparing the answer to this question.

In Atlanta, the Georgia School of Technology is training boys who are to become leaders in the work of developing the manufacturing industries of the State. In Dahlonega the North Georgia Agricultural and Mechanical College is preparing young men to develop our mineral resources. In Augusta the Georgia Medical College is turning out physicians who are to serve their people in the future. In Valdosta, Milledgeville and Athens the Normal schools are sending out workers into the most fruitful of all the vineyards of Georgia endeavor, that of supplying teachers for the thousands of schools throughout the State. In Savannah the college for negroes is rendering efficient service in many ways

for that race. Here in Athens, at the central institution, the State College of Agriculture is keeping in intimate touch with 500,000 Georgia farmers, and by its efforts is adding to the agricultural output of Georgia millions of dollars per annum through its extension work as well as sending out its graduates as trained farmers and teachers of the best agricultural methods. It may not be amiss to state just here that the first State-wide boys' corn club organization was effected under the direction of the University of Georgia, and the development of that movement by the State College of Agriculture, in co-operation with the Federal Government, has been responsible in largest measure for the almost doubling of the average corn yield per acre in Georgia during the past 10 years. Here in the central institution are being trained lawyers, pharmacists, civil and electrical engineers, teachers, business men, future statesmen and scholars.

This, then, is one of the great lines of service to which the University of Georgia is directing its attention, the furnishing of young, vigorous, trained minds that are to become the militant and progressive forces that will in the future make Georgia a veritable empire. The students know this, approve of it, and bend their energies and their talents to their preparation for just that kind of work.

Not only is service to the State emphasized, but service to each other is also given due emphasis. Self-government, self-reliance, mutual friendship, mutual assistance, hearty co-operation, willing service—these are some of the things that count for much in student life upon the campus. And the effect of all this is seen in the alumni spirit years after graduation.

Illustrative of how an alumnus or a friend of an institution may lovingly, efficiently and lastingly serve his State, let me tell briefly the story of the Charles McDonald Brown Scholarship Fund. There may be others like it. I hope there are many now, and that there will be many, many more in the years to come. Charles McDonald Brown, a son of Senator Joseph E. Brown, died while a student in the University of Georgia. Senator Brown gave to the University \$50,000 with which to establish this fund in memory of his dead boy. Under the terms of the trust the income is loaned to worthy young men for the term of five years at 4 per cent. interest. When the young men repay these loans, that money is added to the corpus of the fund. The original donation was made in 1883. The fund now amounts to \$192,000, of which sum \$115,000 is invested in Georgia bonds and the remainder is in student notes that are being repaid from year to year. Since its beginning this fund has aided more than 1000 young Georgians, and at present is aiding 66 students each year. Even the far-seeing Senator builded more wisely than he knew, for years hence this fund will mount into the millions and its beneficiaries will be numbered by the hundreds and even by the thousands each year.

Other distinguished Georgians have from time to time established funds of a similar character, though smaller in amount, and they are accomplishing relatively the same good. Two years since the student body, desirous of helping worthy young men of their own number, established the students loan fund, giving to it one dollar each per annum. It is expected that this fund will in the future be augmented each year by several hundred dollars, and that some day it will become one of the strongest aids to education in the University.

The Alumni Library Fund, recently started, now amounts to almost \$4000. Only the interest can be used for the purchase of books. The fund cannot grow less. Each year new subscribers carry it to larger and larger figures. It is certain to become a great and useful fund. As far as possible, all similar movements are projected with a view to permanency.

The University of Georgia does not hold itself above receiving aid from worthy outside sources. It does not criticize the institutions that do receive such aid in large sums. It does hold, however, to the proposition that its chief reliance must be on its alumni and on its Georgia supporters. The University of Georgia does not stand for anything of a provincial nature. It keeps in touch with everything that is progressive and worthy of emulation outside the limits of Georgia. But the leaders in higher education, the men responsible for the work of the University, have held their heads up, confident of the growing support of their ideals among the people, and have not gone outside of the State to beg.

In buildings, grounds, equipment, maintenance and endowment provided for the institutions of learning, Georgia has been passed by a number of her wealthier

sisters and by some not so wealthy. And yet it may not be said truthfully that Georgia lacks interest in the educational development of her children. She has her problems, and must work them out in her own way.

To keep alive the best traditions of the State, to send into active and loyal service with well-trained minds and splendidly developed characters the sons of the

State, to return to the State in intellectual and moral development and material advancement full compensation for every dollar spent and every effort made, to maintain her high ideals and visualize them in a better and nobler race of men and women—this is what I conceive to be the mission of the University of Georgia, and that it will always be fulfilled there can be no doubt.

ATLANTA FEDERAL RESERVE BANK BUILDING.



The building committee of the Federal Reserve Bank building to be erected at Atlanta, L. P. Hiller, chairman and director, has approved plans and specifications by A. Ten Eyck Brown of Atlanta, and competitive bids will soon be invited. This structure will occupy a lot which fronts 91 feet on the south side of Marietta street and extends through the block to the street in the rear adjoining the railroad. An open space of about 10 feet will be allowed on each side, and the front of the building will be back far enough from the

panying photographs present views of the front exterior and of the banking-room interior. The cost of the building will be between \$150,000 and \$200,000.

New Process for Dyemaking.

A new process for the manufacture of dyes that are claimed to be fast in color and suited for woolen, cotton, leather, paper and other trades has been developed by John R. Milson, who has had 30 years' practical experience in all branches of textile dyeing. This process, which is based upon the use of certain minerals, the names of which are not disclosed, has been developed to the point where 76 standard shades are produced for the woolen trade, and it is claimed that they are both fast in color and require considerably less time to properly set them than the other dyestuffs now generally used.

A recent demonstration of the features of these dyestuffs was held in Baltimore, and it was shown to those present that worsted yarns after being treated with these dyes failed to run, even though given a test of washing with soap and water immediately after being dyed. The dyed yarns were also twisted together with skeins of white yarn, and these were also washed with soap and water and after rinsing and running through a wringer neither the soap lather nor the white yarns showed any tinge of color from the dyed skeins.

It is also claimed that under the Milson process the yarns treated will retain their fullness and elasticity and the tensile strength will be increased.

A syndicate is now being formed for the manufacture of dyes under the Milson process, and they will be placed on the market as "Antholine" dyes. The new company is known as the Milson Dye & Chemical Co., and has its offices at 602-604 Continental Building, Baltimore, Md. It is stated that the company expects to have dyes ready for the market within 30 days. For the present, most of the dyes developed have been for the woolen trade, but later some will be worked out for the textile and other trades.

The Negro Migration Question.

Danville, Va., April 30—[Special.]—Farmers of this immediate section are bitterly decrying the activity of certain New York labor agents who have been at work here for the past week securing colored labor for a brickyard in New York. The exodus of negroes, at the very time above all others that the farmer is trying to conform with advice sent from Washington to cultivate every spare acre, has become actually alarming and the local Chamber of Commerce has announced that it will assist in the vigorous prosecution of every "runner" who is not licensed to "drum help." For the past several years it has been common for negroes at the close of the tobacco season to migrate north during the South's dull season, but at this time, when farm labor is particularly scarce and with every man available needed on the farms, it promises to reflect gravely on the acreage of food crops.

Under the State and city laws the labor agent has immunity. The laws impose a \$50 license on any person who secures labor "for other than his own purposes." Three men are here now representing a Hudson River corporation. They claim that they, as representatives of the corporation, are getting labor "for themselves," and the court records here show that seven years ago just such a case was tried, the representative of a Northern concern arrested here for getting colored labor being given the right to continue his work on the verdict of the jury.

The principal trouble is the negro runner. The agents, plenteously supplied with money, secure the services of some local negro who has no license. For a pecuniary reward this negro moves among the colored communities and makes rosy promises of high wages and pleasant living conditions, with the result that the negroes are often inveigled into going away. Once the decision is made, things move rapidly. The negroes are assembled at the station, their fares paid and they leave on the first northbound train—to return, as many have already done, emaciated and with a very different impression of Northern climes.

A few days ago just such a scene was witnessed here. One hundred negroes boarded the afternoon northbound train for work in this New York brickyard. One negro runner has been arrested and will be tried for drumming labor without a license in the county. One farmer in Halifax telephoned to the local police on the same afternoon that the negroes left here that all of his colored laborers with the exception of two aged men had left between suns following the negro runner as though he were some pied piper of Hamelin. This was not the only complaint, however, for others have come in from other counties.

The "deportations" are not by any means purely local. Hardly a night passes, so Southern Railway officials here say, but that a solid carload of darkies recruited at points further south are seen going through on the night trains.

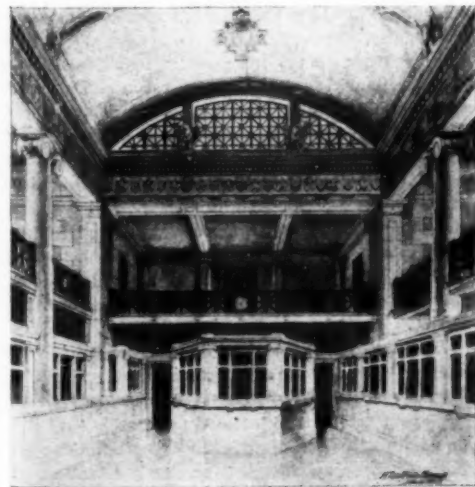
Farmers who in years gone by used to pay their labor \$12 a month, with their board included, consider themselves fortunate if they can find farm hands at \$1 per diem.

[We publish this letter merely to show how little the writer and others of his way of thinking understand the South. Labor must have the right to move from one part of the country to another, regardless of all local laws against "labor agents." There is no power in the country to keep men from going where the rate of wages is highest, and the South must recognize this fact. The migration of negroes is a serious hardship on the South, but it cannot be met by laws against labor agents. There must be a parity of wages before the movement can be stopped, as hard as that may be on Southern farming and industries.—Editor MANUFACTURERS RECORD.]

Names New York Representative.

A. P. BETTENCOURT, The Herald Store, 24 Saffron St., Charlestown, Georgetown, Demarara, British Guiana.

To promote an establishment with your manufacturing people I will send a copy of the list to Thomas L. Knight, 64 Cliff street, New York, who represents me there, and will urge that he buy for me. Acquaint them to send me, through my representative, samples of their entire line (they will be paid for them), so as not to waste much time in writing and waiting for replies.



BANKING-ROOM, FEDERAL RESERVE BANK. ATLANTA.

street to permit a 15-foot terrace. The Corinthian type of architecture will be employed, with a center accentuated by a portico, surmounted by a pediment, with pylons on the corners. Marble or granite will be used in the interior, and the materials for this, such as marble, granite, etc., will be procured from the various States in the Atlanta reserve bank district. Accom-

What Is Wrong With the Railways?

A STUDY OF THE CAUSES OF LEGISLATIVE ATTACKS ON THE TRANSPORTATION INTERESTS

By F. W. HASKELL, President Carborundum Company, Niagara Falls, N. Y.

[While the Manufacturers Record has appealed to the public for less hostile agitation against railroads, for the good of the public rather than for the railroads themselves, we have repeatedly called attention to the fact that railroad officials and employees are largely responsible for this hostility.

No man can deal with railroads, as a traveler or as a shipper, without being amazed at the incompetence displayed in many particulars, with the surliness and insolence of many railway employees who have to deal with the public, and with the unnecessary and wrath-provoking rules and regulations of the railroads.

No mercantile or manufacturing business in the world could live if as badly managed in these respects as are many railroads. For instance, here are a few illustrations which have come to the knowledge of the writer within the last few months that are typical of what the public is constantly enduring: A ticket agent by mistake in September last pulled more mileage from a mileage book than the Pullman reservation required, based on what he claimed to be a rule of the road. Investigation proved that his ruling was incorrect and the main office recognized the mistake; but it took from last September to late February to get so simple a matter adjusted. A shipment of four packages was made by freight early last December. One of the packages was lost in transit, and though the delivering road gave a written statement that only three packages out of the four had been received for delivery, it has not yet been possible to get an adjustment from the receiving line because of dilatory way of handling such things. In the depot of an important Southern road recently a prominent business man was making some inquiries in regard to Pullman reservations. There was no other passenger at the window and it was not train time, and, therefore, there should have been no need for hurry on the part of the clerk; but when his first explanation, a foolish ruling of the road, was not entirely understood and the inquirer asked for further explanation, the clerk insolently told him to get out, turned on his heels and went over to the other side of the room and with his back to the window. The writer of this, standing nearby, was compelled to hear it all. The railroad clerk was absolutely without justification, but as he represented a type of clerks which the writer has often found in railroad offices, his case is mentioned as typical of many.

We know that there are many railroad agents who are gentlemen and who are courteous to the public, but as we have said to railroad people and in these columns many times, no other business on earth could keep out of bankruptcy if it was managed on the system which prevails with many railroads. But most railroad officials refuse to see anything but their own side, and therefore never understand the public's point of view.

This whole situation was so fully outlined by an article published in 1908 by Mr. F. W. Haskell, president of the Carborundum Company of Niagara Falls, N. Y., to which our attention has recently been called, that we believe that its republication at the present time may help to clear the atmosphere and show the railroads what is absolutely essential before they can ever win the heartiest co-operation of the public. Every business man dealing with railroads is compelled to put up constantly with just such petty annoyances as those which Mr. Haskell mentions in the following article, which we are republishing because it fits the situation today almost as fully as it did in 1908.—Editor Manufacturers Record.]

It may be stated, as a general proposition, that the selling prices of commodities vary with reasonable reference to the cost of production and demand.

An unusual demand for manufactured goods increases the demand for the raw materials and labor required to make the goods. The prices of materials and labor advance, increasing the cost of production. To equalize the increased cost the selling price advances, as a matter of course. All this is the natural working of the law of supply and demand, but, while natural laws are supposedly universal in their application, we have in this country at the present time a remarkable exception.

There has been an unprecedented demand for railway transportation. Railways have been congested with business. The consumption of materials and the demand for labor by the railways have enormously increased. Following the natural law, the prices which railways have been obliged to pay for labor, materials and supplies have steadily and greatly advanced. The inevitable result has been that the cost of performing transportation service has greatly increased. Thus far the law of supply and demand has worked exactly as theory indicates it should work, but here it stops. Strangely enough, in the face of the offering of more business than the railways can handle, and of the increased cost of performing the service, the price of that service has either remained stationary or decreased. This condition is strange and unnatural.

The increased cost of performing transportation service is due to natural laws. The inability to increase the price of the service is due to unnatural laws created by legislative bodies.

Starting originally to correct specific abuses, our

law-making bodies have gradually become obsessed by a species of fanaticism which has resulted in the passage of every conceivable law for the oppression of railroads. The average lawmaker has paraphrased the original principle into "whenever you see a railway, hit it." Laws are passed which force the railways to perform a certain standard of service, which force them to do things which increase the cost of service and which force them to decrease the selling price of that service. The poor railways are verily "between the devil and the deep sea."

A persistence in the current style of legislation must inevitably cripple railway service, and thus react on the public and bring financial disaster to thousands of holders of railway securities.

Unless we indict the intelligence of the whole people, it must be that only a small minority can fail to see the folly and wrong of the fanatical crusade against the railways. Now, if it is true that the great majority of the people see the economic error of this class of legislation, how is it that the legislation is permitted? I believe the answer is in the fact that people's actions are governed by two causes, i. e., brains and emotions.

Perhaps I can best explain my meaning by making a concrete example of myself. At the beginning of my business career I was in the railway service for seven years. I have since been associated altogether with large corporations. My natural inclinations, therefore, are in sympathy with combinations of capital and with the railways. My brain tells me that the recent and current assaults on railways are morally wrong and economically unsound, but my emotions make me feel that even if the specific punishment is unjust, the rail-

ways deserve all they get, and that until it begins to hurt me I would like to have the castigation continue.

My individual opinion, taken alone, means nothing. I find, however, that in a general way my opinion is practically that of nearly every man with whom I have talked. Summing it all up, I believe that the activity of the small, ignorant and vicious class is permitted only through the indifference of the large intelligent class. This large class sees clearly the mistake and the evil of the oppressive legislation, and, being in the majority, it could prevent it had it the inclination so to do. The large intelligent class takes no active part in the punishing process, but, instead of stopping it, stands idly by and rather enjoys the operation.

Why is this so?

Because the railways have, with peculiar blindness, neglected to acquire the most valuable asset of any enterprise—the good-will of the people at large.

It is a hackneyed, but nevertheless wise saying that "Whom the gods would destroy they first make mad."

There was once a time when the minister of the church was perhaps the only educated man in the community. This fact naturally and justly gave him a prestige which made him an authority above that of his neighbors. He was regarded as a superior person—and he was.

Naturally, again, this homage was not unpleasant to its recipient, and the ministers fell into the habit of thoroughly accepting the estimation of themselves which had been made by their fellow-men.

After a while, though, education became more general, and the well-informed man became the rule rather than the exception. The minister was no wiser than the lawyer, the doctor, the scientist or, indeed, the average business man. The minister was as able and as well educated as ever, but, being surrounded by men of equal ability and education, he lost his pre-eminence. The glamor fell away, and he became simply a man among men. Now all this was right, as showing a healthy dissemination of knowledge, but it worked a hardship to the minister, because it was hard for him to learn the lesson. It was hard for him to realize that his dogmatic utterances would no longer be accepted as authority merely because he said them, and that in talking to a people as intelligent as himself he must convince through logical argument based on sound premises instead of through the reverence which the parent expects from the child.

When the railroad operations began to attain considerable magnitude there was brought into being a new system of organization, which was more complex than anything else known at the time. There were bureaus, divisions and agencies, stretching out for hundreds and thousands of miles. All of these finally centered in a supreme authority. To properly control the scattered units of the great whole the central authority had to be supreme in fact as well as in theory. A system was organized which formulated its rules and applied them rigidly. The work required a certain degree of skill, which was perhaps magnified because it was unusual.

The first result of all these conditions was undoubtedly that railway organizations, management and operation became the most highly developed and specialized commercial machine in the world.

The second result was that the whole railway world became unconsciously, but surely, permeated with what is vulgarly known as the "big head."

From president to station agent and engineer to conductor each human atom in the railway body corporate exercised and enjoyed an unquestioned authority far greater than that of men of equal standing in other walks of life. For a time this was deserved. Railway men were pre-eminent, because they had achieved pre-eminence. But, as with the preacher, this condition could not endure. Other lines of business were developed, specialized, organized and expanded until the railroad man, instead of appearing as a giant among pigmies, finally came to be seen as merely a man among men—that is so seen by all but one—himself.

The minister has learned his unpalatable lesson. The railroad man has not yet learned his. Therefore, he suffers, because, being out of touch with the times, he, unwittingly, perhaps, antagonizes those who would like to be his friends.

A great deal of space in the daily press has been devoted to the evils of excessive and discriminating railway charges, rebates and other large wrongs. A grievous wrong of substantial size is something that

can be met and combated. The big troubles in life generally take care of themselves some way, but the little irritations, constantly repeated, are what wear out the ordinary man. It is, of course, a curious reflection on human nature, but it is a fact, that the average treasurer of a corporation will not even lower the match with which he is lighting his cigar on receipt of news that his concern has lost \$5000 through a failure, while he will be disturbed for half a day over the insistence of a customer in deducting \$5 cash discount after the expiration of the discount period.

It is not the big things they have done which have created a general spirit of antagonism toward the railways, but the petty things, the mean exactions, the insolent mannerism, the unbusinesslike methods, the delays, the arrogance of authority and, above all, the maddening paternalism of the railways, their agents and employees which wear on the average man's nerves until the very ones who, from instinct and training, should be the protectors of the railways stand aside and say wearily, "Of course, it's wrong, but let them take their medicine."

Having made a number of general assertions, I will endeavor to illustrate my meaning by citing a number of instances of what I term petty injustices which have come under my personal observation.

Before mentioning these, however, I will speak of two little things, perfectly harmless and inconsequential in themselves, but which I think illustrate the disposition of railway officials to put themselves, their acts and their organizations on a different plane than that occupied by the common people at large.

Years ago there appeared on a railway folder a certain sentence, which was afterwards copied until one was almost sure to find it on every piece of passenger literature in existence. It has since been abandoned by most railways, but is still occasionally seen. The sentence referred to requested passengers to report any incivility of employees, and then said, "It is, however, suggested that courtesy is equally commendable, whether practiced by the railway employee or the passenger." Now, that statement is absolutely and unquestionably true, but what merchant would ever dare to hand the customers entering his store a slip of paper containing instructions in etiquette? If a passenger agent was warned by his grocer to be polite to the man who weighed out his sugar, he would be justly indignant. Why, then, when I buy a ride on a railway train, should I be complacent in being warned to be decent to the conductor?

Most railways print on their folders a warning and request, instructing the passenger not to sell unused parts of tickets to brokers, but to send them to the general passenger agent for redemption. Then follows this sentence: "Tickets when wholly unused may be sent to the general ticket agent with a statement of the reason for their non-use." What possible excuse can there be for the addition of the italicized words? If the possessor of an unused ticket has the right of redemption for that ticket, the right can be in no way modified or impaired through the fact that the purchaser failed to use his ticket because he had been blown up by his automobile instead of because his wife changed her mind and wouldn't let him go. If I go to a general passenger agent who is a total stranger to me and ask him some questions concerning his personal affairs, he, unless he is an exceptionally docile man, intimates that my energies can best be applied to those affairs which are my own, but that same man apparently fails to see the impudence of asking me why I did not take a journey that I had once intended to take.

There is no real wrong in either of these two cited cases. They are not abuses, and can hardly be considered as even irritations, but they are mentioned as reflecting that peculiar condition of mind which has become constitutional with the railway man, the condition of mind which shows its possessor regards himself as in a class apart and not subject to the laws and customs governing the rest of mankind.

Paternalism and benign despotism may not in themselves be of evil, but they are subject to two criticisms: (1) The people don't like them, and (2) there is always the possibility of the parent turning tyrant and benign becoming baneful.

Railways are apt to forget that, while they have the right to make rules for the government of employees, they cannot make laws for the government of the public, and this forgetfulness has made many an enemy for the railways.

I am manager of a manufacturing concern, located in

a city in which center several competing lines of railways. This fact is undoubtedly of material advantage to us. The concern is not large enough to be favored with special rates or rebates, but its volume of freight is large enough to command considerable respect from the various competing freight agents. For years we have suffered an almost daily annoyance from the presentation of freight bills which are plainly erroneous—sometimes in rates, but generally simply in extensions and footings. Their attention being called, the freight agents at once admit the error and say, "But you will have to pay the bill as it stands and put in a claim for overcharge." The agent will freely acknowledge the bill is erroneous; that the error has been made by a railway employee; that we do not owe the money, but that we must pay, because the rules say so. As a matter of fact, we never have paid these overcharges, and we have sustained no losses in this way, but the repeated wrangling over a question which is obviously undebatable becomes intensely irritating and tends to retard the growth of admiration for the intelligence and fairness of railway methods.

The railways centering in the city in which our factory is located have a "Car Service Association." This is a voluntary association which is legally non-existent. The association collects charges for detention of freight cars. I have always recognized the entire justice of a car-service charge, and have always paid these bills promptly and without protest. We have, however, taken the apparently unusual position of refusing to pay bills which were contrary to the facts. We have had some little friction over the differences in time records, but have made such concessions that we have had but little real annoyance. Some months ago we received a bill for car service during the preceding month. We checked up the bill, deducted the charge for one car and sent our check for the balance. The bill and check were returned to us with the statement, "We cannot, under any circumstances, accept settlement of a mutilated bill." With return of papers we explained that the car deducted had never been at our works, and to substantiate this assertion called attention to the fact that the car contained materials which cannot be used in our factory. A few days later papers came to us again with this statement: "We find that you are entirely right. The car in question belonged to the Blank Company, and was billed to you through a clerical error. The charge has, however, gone on our books, and under the rules must be paid by you. Your claim for a refund will receive prompt consideration, but must be made only in connection with presentation of the original bill duly receipted."

We did not pay the bill. We were officially threatened with a refusal to deliver to or to take cars from us. We fought this petty thing for a month, and finally the Car Service Association dropped the matter, having possibly consulted an attorney. No, we didn't lose any money and our car movement was not interrupted, but we had a month of quarreling before we could convince a seasoned railroad man that the rules of a non-existent body were not law.

Several years ago we made a shipment over one of the largest and richest of the trunk lines. After a time the consignee reported the non-arrival of the goods, and we sent a tracer. A few days later the contracting freight agent of the trunk line called and said our goods had been in a wreck and destroyed, and that our claim would be promptly adjusted. We sent in a claim in proper form and waited. Six months later we wrote the claim agent, asking when we could expect to hear from him. His answer was, "No papers here. If sent, have been lost. Send duplicate papers." We sent duplicate claim. At the end of another six months we again asked if we might hope. Answer, "Regret to say papers in your case have been lost in this office. Please send duplicates." A third set of attested papers was sent. Six months more rolled on (this sounds fantastic, but it is absolutely true), and again we asked for report of progress. The answer was an exact copy of the previous one. We then lost patience. Eighteen months had elapsed since the filing of a claim in which the facts were undisputed. We turned the papers over to our attorney, who wrote to the legal department of the railway. The next day our attorney received a telegram from the legal department, informing him that check for full amount of our claim had just been mailed. The following day we received the check.

There are two very interesting points in connection with this episode: (1) How long would that railway retain in its service a clerk who had lost three suc-

cessive acts of papers if the possession of those papers was necessary to enable the railway to recover a sum of money? (2) What master stroke of detective skill so quickly found those lost papers when it seemed to be good policy to find them? Can actions of this kind fail to make unfavorable impressions on those who suffer from them?

We once had a strange experience, a brief recital of which apparently shows great negligence on our part, although a knowledge of the details would relieve us of the greater part of such a charge.

We had arranged to send a stock of goods on consignment to an agent. We shipped the goods and notified our agent. Just after writing to him we received a letter from him, asking us not to ship, but saying that if we already had, he would put the goods into a warehouse and be responsible for them. Through a strange combination of circumstances, it was nearly two years before we again took up with our agent the matter of these goods. We supposed he had put them in the warehouse. He said he had never received, and supposed we had not shipped them. We then asked the railroad to show delivery. The agent said, "Why, our freight house and all its contents were totally destroyed by fire just after your goods arrived." We sent claim for value of the goods. It was returned, with the laconic endorsement, "Claim refused." We sent it on again, and asked if we might be favored with a reason for the rejection. Answer, "Under the law, claims must be made within one year from date of loss." Our attorneys informed us that that statement was correct. I then wrote to the freight traffic manager of the road, saying, in substance: "We admit that we have no legal claim. The law of limitation is just as a protection against fraudulent claims which are purposely brought after such a lapse of time that no proper defense can be made. In this case, however, the facts are plain, are unquestioned and are fully understood. Knowing, as you do, that you received these goods, and that they were destroyed while in your hands, and while you were still a carrier and not acting as warehousemen, I am sure you will not decide to take advantage of a technicality to do a moral wrong."

The freight traffic manager answered: "I see no reason to change the ruling of our claim agent."

There was left to us merely the negative satisfaction of giving that road no more business. After a couple of months the local agent asked why he had none of our freight. We told him. Then a contracting freight agent called and explained that we were not fair. Of course, their action looked unkind to us, but we must remember that they were bound by rules. Some time later the same man called and said his road wanted our business, and that if we would sign an agreement to give them all of our freight, they would pay half our old claim. We declined. Then a special agent called and said his road had made a mistake, and that in exchange for an exclusive contract they would pay the entire claim. We declined. A series of special agents then offered to pay the claim on conditions which gradually became less exacting—a contract to give his road two-thirds at least, one-half, to give him preference, to stop discrimination and give him his natural proportion. Finally I said: "Your road either does or does not owe us the amount of that claim, and when I say owe I place as much weight on a moral as on a legal obligation. If you owe that money to us and do not pay it, you are dishonest; if you do not owe it, you are a coward if you pay it. We positively will make no bargain to obtain that which we hold belongs to us." The next day the special agent called and handed me his company's check for the full amount of our claim.

As a matter of convenience to ourselves we have since then given some business to that road. I have, however, always had a feeling of utter contempt for that freight traffic manager as a man who had neither the moral principle to do right nor the courage to maintain his position when he found it didn't pay.

In this case we finally recovered the amount of our claim, but an individual, occasional shipper, having no means of defense, would never have had the wrong righted.

As neither virtue nor evil is confined to any one class of society, it is not surprising that there are dishonest shippers, shippers who underweigh, undervalue in asking for rates and overvalue in making damage claims. In self-protection the railways have established weighing and inspecting bureaus. If these bureaus confined themselves to detecting and correcting mistakes and frauds, no reasonable or honest man could

complain. But, actuated by excessive zeal, these bureaus have apparently formulated the theory that the average shipper is instinctively dishonest, and, carrying out this theory, hold up freight and make blind and foundationless accusations with indiscriminate ignorance and recklessness. And then these bureaus—non-incorporated and legally non-existent bodies—have also devised their "rules," and they take themselves and their rules as seriously as though they were real instead of imaginary.

My company has for many years manufactured and shipped but one product. Two years ago it began to manufacture an additional product. The new product was radically different, both chemically and physically, from the old. It bore no visual resemblance to the old product. It was used for wholly different purposes, and it sold at just one-tenth the price of the original product. The two things were so different, not only to the expert, but to the untrained eye, that no even semi-intelligent person could possibly mistake the one for the other.

The local freight agents were made acquainted with the appearance, nature, uses and prices of the new product, and obtained a freight classification for it which naturally gave the cheaper material a lower rate than had attached to the older and more expensive material.

For convenience in telling this story, I will call the original product X and the newer product Z.

We received an order for a quantity of Z, to be delivered, freight prepaid, at an Atlantic port in a Southern State. We asked for and obtained a through rate, made the shipment and prepaid freight to destination, receiving a receipt and a through bill of lading. A few days later we received notice from the New York office of the road by which we had shipped that the Southern Weighing and Inspection Bureau had decided that the material shipped by us as Z was not Z, but was X, and had therefore raised the classification and rate. This resulted in a large deficiency in carrying charges, which we would please remit by return mail or pay to the local agent. We called in the local agent and showed him the letter. He said, "Why, I know what you shipped. These New York fellows are mixed. I'll write to our people and fix it up." Three days later he called again and showed a letter from his New York office. This letter admitted that the material was Z, as billed; that the rate given us and paid by us was correct; that he had tried to convince the bureau that it was wrong, but that the bureau refused to alter its decision, and that "from their ruling there is no appeal."

Try to realize the significance of this! Any man would be entirely pardonable for failing to comprehend it. A "bureau," an irresponsible, unrecognized, voluntary association, takes white, tangible, actual, admitted, unquestioned and unquestionable white, and then, by mere edict, makes it black! The ability to exercise a function of this kind, to perform such an act of creation, is possessed by but two known powers, i. e., "the bureau" and God!

And "from this ruling there is no appeal." This is wonderful! But still not quite so wonderful as the other, for in this country there are three sources of non-appealable rulings—the bureau, the Supreme Court of the United States and God!

In the case above cited the initial road guaranteed the freight charges and had the goods sent to destination. It asked us in a half-hearted way to pay the additional freight imposed by the omnipotent bureau. We were kindly disposed toward the initial road, but the Frankenstein was of their creation, not ours, and we let them fight it out between themselves.

Not long after this we received an order for a lot of Z to be delivered to the United States Government at Mare Island Navy-Yard, San Francisco. We were under bond to deliver the material by a certain date. The shipment was made, was inspected at place of loading, a through bill of lading given and freight paid to destination. Several weeks later the navy-yard complained that the shipment had not arrived, and notified us that if it was not received by a certain date, our bond would be forfeited. An investigation by telegraph disclosed the fact that the shipment was being held at Sacramento because some Western inspection bureau had changed the material from Z to X.

I happened to know a very big man who was close to another very big man, who telegraphed a railway potentate, who released our material, with the result that the only loss was nerve tissue.

The two materials which I have called Z and X resemble each other about as much as do oranges and pearl buttons. Any actual inspection would have instantly revealed the difference. The only possible conjecture is that the agents of these bureaus had for years associated our company with shipments of X, and that when finally we appeared as a shipper of Z they assumed we had fallen from rectitude and were making money through the simple device of false billing. And on that assumption they were willing to inconvenience an unknown number of men, subject two parties to money loss and possibly involve their principals in costly litigation.

The result of these actions may be very real and very serious, but the actions themselves remind one of a number of little children playing at King. And these childish minds in grown-up bodies take themselves just as seriously as do the little tots.

In the preceding pages I have outlined a few specific cases which have occurred during the recent history of one industrial concern. We find ourselves continually on the defensive against the acts of the railways—not in big, but in little things. The protection of our interests in this respect became such a tax on the time and energy of our office that we have for several years past employed one high-priced clerk, whose duties are wholly the detection and correction of railway errors, and we find this clerk one of our most profitable investments.

While, as previously stated, our concern is comparatively small, it is perhaps the largest producer of railway revenue in the competitive railway point at which it is located. If with these decided advantages we are subjected to the annoyances I have mentioned, it is reasonable to assume that smaller concerns at non-competitive points must suffer to at least an equal extent, with the additional disadvantages of having no means of redress.

My opinion is that the general negative hostility of the public toward the railways arises from the cumulative effect of continually repeated petty injustices and irritations.

I believe that the committing of these improper acts results not so much from intentional dishonesty as from what, for lack of a better term, may be called the constitutional insolence of the railway attitude toward the balance of humanity.

In turn, again, this attitude of insolence exists because the railway man still lives in the traditions of the long gone past.

The remedy, which is suggested in all kindness, is that the railway world should arouse itself from its Rip Van Winkle sleep before its pleasant dreams are changed into nightmares.

Let the railway man realize that he is not necessarily superior to his patron. Let him realize that when he sells transportation he is governed by about the same general principles as apply to the man who sells shoes or molasses. When he has realized these things he will have seen a great light. From his new point of view he will see things as they are. This does not necessarily mean that he will have less respect for himself, but that he will have more respect for those mortals who are so unfortunate as to be outside the railway fold. When he has attained this new understanding it will be possible for the ordinary man to buy transportation under as pleasant circumstances and conditions as he buys bonds or groceries.

Let the railways do away with all the little annoyances which are the natural children of railway paternalism, and instead of being hostile the public will be the friendly protector of that which all men of understanding recognize as one of the greatest humanizing and civilizing factors of modern life—the railways.

New City Hall for Tulsa to Cost \$150,000.

The city of Tulsa, Okla., is preparing to erect a new city hall, bids for the construction of which will be received until May 24 and opened on May 25 in the office of Frank Newkirk, City Auditor. It is planned to erect a four-story, fireproof structure, 60x120 feet, to be equipped with vacuum heating system, electric elevators and electric lights, the current for which will be generated in the building. Plans and specifications were prepared by Rush, Endicott & Rush of Tulsa, and the building will cost about \$150,000.

Cut-Over Lands Put to Exceptionally Good Use—A Pointer for Other Sawmill Operators.

The Nona Mills Co. of Beaumont, Tex., is carrying on interesting work in the line of utilizing cut-over pine lands, having some 20,000 acres of such land under fence in the vicinity of the company's sawmill settlement at Leesville, La.

John N. Gilbert, president of the company, is taking personal interest in the enterprise and is devoting particular attention to the development of a breed of beef and dairy cattle that will be best adapted to climatic and local conditions. A herd of 2000 head is contemplated, and with dipping vats, food sheds, silos and shelters it is the intention that upon completion of all plans the company will own one of the most highly developed stock farms in the United States.

Another feature of this development of cut-over lands is a pecan orchard, at present covering 75 acres. All of the trees are of paper-shell varieties, and are now six years old. In a few years they will be profitably bearing, and it is the expectation that in the course of time this orchard will be one of the best investments the company owns.

A nursery has been established on the tract by the company, and the development includes garden as well as farm operations. Already it is one of the most successful farms commercially that has been established on any tract of cut-over land.

Turning from Cotton to Foodstuffs.

Yazoo City, Miss., April 25—[Special.]—Recent agitation for the producing of foodstuffs has brought out the fact that Yazoo county, once one of the greatest cotton counties in the South, and at that time the greatest producer of long-staple cotton in the world, has turned to the growing of all sorts of foodstuffs, and will be ready to feed itself as well as to have a large surplus this fall.

The county now has planted sufficient acreage in corn to guarantee a crop of 2,500,000 bushels. Besides this, the estimated yields of other foodstuffs will be: Soy beans, 160,000 bushels; cowpeas, 400,000 bushels; wheat, 30,000 bushels; oats, 40,000 bushels, and velvet beans, 100,000 bushels. The estimated value of these crops is \$3,500,000.

The county has already shipped more than \$100,000 worth of hogs and cattle this year, and expects to make these figures reach \$400,000 before the year is over.

It is expected that the syrup yield will be about 750,000 gallons, worth 60 cents a gallon. Yazoo county boasts of being the banner county in Mississippi in food production, although new in the business.

A New Chemical Directory.

The first issue of the "Annual Chemical Directory of the United States" has just been published by Williams & Wilkins Company, Baltimore, Md. In compiling this directory the purpose has been to give information that will be comprehensive and accurate regarding all phases of the chemical industry and prove of value to those seeking knowledge on chemical matters and where chemical materials and equipment can be purchased. A list is given of American manufacturers of chemicals and dealers in chemicals; American manufacturers of and dealers in apparatus and equipment, machinery and mechanical supplies used for scientific and technical laboratories, industrial plants and organizations; a list of chemical firms—consulting, analytical and chemical engineers; Federal, State municipal, industrial laboratories; American and foreign colleges offering courses in chemistry; United States and the principal foreign experiment stations; Federal and State officials of dairying, foods, drugs, health and feeding stuffs; American and foreign technical and scientific societies; American and foreign chemical publications, including technical journals and important books issued in the last several years; a chemical survey of 1916.

The Waverly Hosiery Mill, Petersburg, Va., has been incorporated with \$30,000 capital and the following officers: P. Fleetwood, president; J. B. Smith, vice-president.

MEDINA RIVER IRRIGATION PROJECT EXPECTED TO BE OPERATED SOON.

Long Delay Through Litigation of Great Enterprise Undertaken by the Late Dr. F. S. Pearson.

San Antonio, Tex., May 1—[Special.]—The lands of the San Antonio Land & Irrigation Co., Ltd., situated in the rich valley of the Medina River, will probably soon be brought into a producing state after a long period of litigation, during which the property has remained inoperative. Through a recent decision of the United States Supreme Court the controversy as to whether the Federal State receivers of the corporation were legally in control was settled in favor of the State receivership. This final judgment will enable the placing in cultivation this season of more than 10,000 acres of land that is watered from the irrigation system, and during the coming winter much additional land will be brought under cultivation and the irrigated area will be increased as rapidly as possible until approximately 60,000 acres that are susceptible of being watered from the canal and ditch system are reclaimed.

The improvements and holdings of the San Antonio Land & Irrigation Co., Ltd., represent an investment of approximately \$6,000,000. It embraces a great dam that was constructed across the Medina River about 35 miles west of San Antonio, creating one of the largest water-storage reservoirs in this country and affording a water supply sufficient to last two years in the absence of rainfall for irrigating 60,000 acres of land. The canal system was built along the most modern lines, and has been kept in a good state of repair all during the long period of litigation which arose over a controversy between the minority and majority bondholders of the company. The project was one of the creations of the late Dr. F. S. Pearson of New York and London. This remarkable engineer and financial genius was at the head of the syndicate of British capitalists that now have investments aggregating more than \$100,000,000 in Mexico, besides being the owners of vast electric power, railroad and other properties in Brazil and Spain. The Mexico holdings of the syndicate include the hydro-electric plant at Necaxa, about 120 miles from the City of Mexico, and each of these different units has a capacity of about 84,000 horse-power, which is transmitted to the City of Mexico, Puebla, the El Oro mining district and other industrial centers of that part of the country. The same syndicate also owns electric traction lines in the City of Mexico and Puebla. Its other holdings in Mexico include a 3,000,000-acre tract of timber land in western Chihuahua, several large lumber mills situated at Pearson and Madero, and the Mexican & Northwestern Railroad, which runs from Juarez to Chihuahua. As an auxiliary to its Mexico lumber manufacturing plants, the syndicate owns the largest box and crate factory in the world, situated at El Paso. It obtains its materials for its boxes and crates from its Mexico mills.

Shortly after the completion of its big irrigation enterprise near here Dr. Pearson and associates became interested in the possibilities of irrigating large areas of land in the South Plains region of Western Texas by means of pumping plants installed in shallow wells. They purchased about 60,000 acres of land in Plainview and began the work of development on an extensive scale. This irrigation project has made wonderful progress and has seen no interruption even following the tragic death of Dr. Pearson, who lost his life by the sinking of the Lusitania. There are at this time approximately 200 wells and irrigation pumping plants installed and in operation upon lands of the syndicate in the Plainview section. Each of these pumping outfits is capable of storing water for irrigating from 120 to 160 acres of land. As a result of this development work in what was formerly an exclusive ranch region, enormous values have been added not only to those lands that have already been placed in irrigation, but to those which have not been so far reclaimed. Irrespective of the dryness of the season, bountiful crops of various kinds are raised by this method of irrigation. This season there is a considerable acreage of wheat in the vicinity of Plainview being grown under irrigation, and the result of the experiment is being watched with no little interest. The meagre rainfall of the South Plains country of Western Texas embraces an area of probably 8,000,000 acres, all of which is easily susceptible of irrigation by means of pumping plants installed upon

wells that range in depth from 30 to 100 feet. Orchard- ing on a commercial scale is being carried on in the irrigated district of that region. It is said to be the only part of Texas where apples, cherries and certain other fruits and berries that are adapted to the more northern portion of the United States can be successfully grown.

Southern Textile Exposition Awards Contract for Big Exhibit Hall.

The contract for the permanent home of the Southern Textile Exposition in Greenville, S. C., was awarded last week to the Fiske-Carter Construction Co. of Greenville at a cost of about \$90,000, and including the land and equipment, about \$135,000. This structure will be three stories in height and will cover an area of 106x 230 feet, and will be equipped with an auditorium and gallery on the second floor, having a seating capacity of 3500. Plans and specifications for the building were prepared by J. E. Serrine, mill engineer and architect, Greenville, S. C.

It is planned to have the building completed by November 1, in time for holding the second Southern Textile Exposition, and every effort will be made to accomplish this.

The awarding of this contract marks the fruition of the efforts of a number of aggressive men in Greenville who organized the first Southern Textile Exposition, held in that city in November, 1915. Before this the only representative textile exposition in the country was held in Boston every two years, but it was believed that on account of the tremendous growth of textile manufacture in the South this section would patronize and support a comprehensive exhibit of the latest ideas in textile machinery and supplies. Greenville was selected because of its location in the center of the greatest number of Southern textile mills and its easy access from all parts of the South.

The success of the first exposition far exceeded the hopes of its organizers, and during the week it was in progress over 40,000 visitors attended the exposition. The assured success of the project caused those in charge to decide to make the Southern Textile Exposition a biennial event, and in order to provide an adequate exhibit hall the large building was determined upon. Stock in this building enterprise was taken by most of the exhibitors, representing the leading manufacturers in this line in all parts of the country, indicating the faith they had in the advantages to be derived from a Southern exhibit of this kind.

Indications coming to managers of the exposition to be held this year in November point to it exceeding by far the initial exhibit, and a large number of requests for reservation of space have already been made.

The officers and directors of the Southern Textile Exposition, and who have been the active factors in the success of this undertaking are: President, B. E. Geer; vice-president, Capt. Ellison A. Smyth; secretary, C. G. Slaughter; treasurer, Edwin Howard; Directors, B. E. Geer, Milton G. Smith, W. P. Anderson, T. B. Wallace, S. E. Heymer, F. G. Cobb, Z. F. Wright, A. B. Carter and J. E. Serrine.

Thrift Movement in Arkansas Backed by Bankers of the State.

Hot Springs, Ark., April 25—[Special.]—A great drive for the material prosperity of Arkansas, with the bankers of the State taking an aggressive part and leading the way, was advocated by President Moorhead Wright of the Arkansas Bankers' Association in his annual address today. There is a large attendance at the convention of the association, which opened here this morning.

Much of Mr. Wright's address was inspirational in character, and designed to stimulate the bankers of the State to take the initiative in bringing Arkansas to the front rank of agricultural and industrial States. "We have left behind the old times when business waited on the farmer and the farmer waited, somewhat sleepily, on the Lord," said the speaker, in complimenting the agricultural interests of Arkansas on the progress made in recent months, "but we have hardly begun to see the things we might work out in the general scheme of construction."

The good results achieved by the association in the

promotion of thrift, better farming and good roads were used by the speaker as an object-lesson as to what the bankers may hope to accomplish when they tackle in an organized way the work that he outlined. He asserted that "master minds" in the association will take up the problem of creating an increasing public sentiment in favor of the highest possible educational standards.

Dwelling on the situation created by the war, the speaker said: "We should straighten out the meaning and value of these words, 'citizenship,' 'duty,' 'loyalty,' 'patriotism,' and be ready to measure our actions to the national pattern. It is our solemn part to make sure that Arkansas holds to her full 'bit' in spirit and in performance in every particular without discount."

"As bad as the war is, it will serve one good purpose if it jolts us all wide-awake to the real things of life; if it shakes us loose from the easy habit of following precedent, and awakens us to a broader vision of things that we can readily accomplish."

Cottonseed and Cottonseed Products.

The quantity of cottonseed received, crushed and on hand, and of cottonseed products manufactured, shipped out, and on hand, and imports and exports of cottonseed products covering the period from August 1, 1916, to March 31, 1917, as reported by the Bureau of the Census, Department of Commerce, is as follows:

COTTONSEED RECEIVED, CRUSHED AND ON HAND (Tons).

State.	Received at mills* Aug. 1 to Mar. 31.	Crushed Aug. 1 to Mar. 31.	On hand at mills on Mar. 31.
United States.....	4,330,922	3,863,185	482,066
Alabama.....	192,064	166,030	26,363
Arkansas.....	354,147	297,380	57,161
Georgia.....	734,146	663,551	74,129
Louisiana.....	168,202	150,722	17,585
Mississippi.....	359,390	309,910	51,879
North Carolina.....	249,566	232,226	17,918
Oklahoma.....	306,808	280,543	26,455
South Carolina.....	252,593	236,949	16,389
Tennessee.....	273,639	224,877	48,842
Texas.....	1,330,416	1,216,784	125,093
All other.....	110,941	99,213	20,272

*Does not include 14,329 tons on hand at mills August 1, nor 158,267 tons reshipped.

COTTONSEED PRODUCTS MANUFACTURED, SHIPPED OUT AND ON HAND.

Item.	On hand Aug. 1, 1916.	Produced Aug. 1 to Mar. 31, 1917.	Shipped out Aug. 1 to Mar. 31, 1917.	On hand Mar. 31, 1917.
Crude oil, lbs.....	\$6,897,871	1,186,669,174	1,084,946,283	*1,144,122,329
Refined oil, lbs.....	221,639,915	1,955,348,973	1,220,930,168
Cake and meal, tons.....	179,518	1,887,096	1,820,172	246,442
Hulls, tons.....	56,656	846,139	769,021	133,774
Linters, 500-lb. bales.....	15,206	1,109,106	999,400	1136,907
Hull fiber, 500-lb. bales.....	18,560	318,059	325,976	111,357
Motes, grabbats and sweepings, 500-lb. bales.....	2,161	27,410	18,196	111,485

*Includes 4,438,521 and 7,423,786 pounds held by refining and manufacturing establishments August 1 and March 31, respectively, and 22,666,372 pounds in transit to refiners and consumers March 31.

†Produced from 1,026,462,349 pounds crude oil. Includes 10,567,250 pounds held by refiners, brokers, agents and warehousemen at places other than refineries and manufacturing establishments and 8,477,746 pounds in transit to manufacturers of lard substitute, oleomargarine, soap, etc., March 31.

‡Includes 11,395 bales of linters, 714 bales of hull fiber and 110 bales of motes, grabbats and sweepings stored elsewhere than at the mills.

IMPORTS AND EXPORTS OF COTTONSEED PRODUCTS FROM AUGUST 1 TO MARCH 31.

Imports—Oil, pounds.....	6,112,022
Exports—	
Oil, pounds.....	96,490,617
Cake and meal, tons.....	462,463
Linters—Unbleached, running bales.....	144,091
Bleached, running bales.....	96,041

A Letter from India.

BENARSI DASS GIAN CHAND & Co., Brokers, Bankers and Import Agents, Sua Bazar St., Lahore, India.

Be kind enough to give us help in making connections with leading manufacturers and exporters. We note that you have sent a copy of the MANUFACTURERS RECORD, for which we thank you. We are specially interested in the import of piece, fancy and general merchandise goods, hard and fancy glassware. We have started the International Export Corporation to export Indian products to all parts of the world. We request you to kindly make connections or send us names of reliable firms interested in the Indian products.

Fertilizer Manufacturers Concerned Over Sulphuric Acid Supply.

Virginia-Carolina Chemical Co.

Richmond, Va., April 25.

Editor Manufacturers Record:

I believe in normal times substantially 75 per cent. of the pyrites that is used in the production of sulphuric acid finding its way into the fertilizer trade is imported, largely from Spain, the other 25 per cent. having a domestic origin. At the moment—a situation that has existed for several weeks—practically no pyrites are coming in from abroad. This, we understand, is due in part to the activities of the German submarines and in part to the practice of those vessels (many of them in Government service) that would otherwise load with pyrites at Spanish ports now sailing in ballast in order to save time and facilitate their return to European ports with war cargoes.

Brimstone has been substituted for pyrites in whole or in part by some of the fertilizer manufacturers. Some time and considerable expense are necessary to convert a sulphuric acid plant from pyrites to brimstone burning. The price of brimstone per unit is very much higher than the normal price of pyrites per unit of sulphur, and consequently there is a rather radical increase in the cost of the production of the acid.

Whether the two sulphur companies which you mention, one in Texas, the other in Louisiana, can in any circumstance so far increase their output as to afford a supply of brimstone to take the place of the pyrites now needed in sulphuric acid production for fertilizer purposes is a matter about which I am not sufficiently informed to justify an answer, with due regard for fact, but such information as I have clearly merits the opinion that this could not be done, particularly within the time necessary to enable the fertilizer manufacturers to meet the fertilizer needs of the fall crop seeding of 1917.

The extent to which ships engaged in the Chilean trade may be withdrawn for governmental or other purposes or interfered with by submarine activities during the period of the war is a mere matter of conjecture. It is entirely possible, although hopefully improbable, that by reason of future developments the fertilizer industry shall not be able to obtain a sufficient quantity of nitrates to meet the needs of the trade and manufacturing purposes.

With reference to the proposed Government nitrate plants, it is, I think, easily conceivable that should the war continue for a period of two or three or more years, such plants would prove highly important as sources in part of nitrogen supply which could be used in the manufacture of fertilizer. I rather incline to the belief, however, that the difficulties in the way of an adequate fertilizer supply to meet the demands for food production for ourselves and other countries do not lie so much in the line of sources of ammoniates as that of sulphuric acid. Sulphuric acid is indispensable in the manufacture of acid phosphate, the chief commercial form in which phosphoric acid is applied to the soil. The sources of domestic potash are few and the production is small, but potash is not so essential for the time being as phosphates.

My belief is, if the fertilizer manufacturers find or are accorded means to provide themselves with sources for the production of sulphuric acid with which to manufacture acid phosphate that a fairly adequate supply of ammoniates can be found, and if then railroad transportation is such as to offer prompt, seasonable in and out movement of materials and manufactured product the needs of the country in a commercial fertilizer way may be quite fairly met. The fertilizer manufacturers we may, I believe, assume are fully alive to the situation and to be depended upon to exert their very best efforts in aid of the agricultural requirements of the country.

CHAS. G. WILSON, Counsel.

What the Department of Agriculture Thinks of the Pyrites Situation.

Department of Agriculture, Washington.

April 25.

I have your letter of April 18, with reference to the report of the Executive Committee of the National Fertilizer Association, recently published in the MANUFACTURERS RECORD. The statement which you quote, that since the supply of Spanish pyrites has been cut off by submarine activities sulphuric acid plants must

be changed so as to burn brimstone or native sulphur, is not strictly in accordance with the facts. Large deposits of pyrites occur in this country, but, as you probably know, are not found in quite the same form as the Spanish pyrites. The material is more finely divided, and in order to be used in this country most of the furnaces will have to be slightly modified. With such modifications installed, however, American deposits of pyrites can be used for the production of sulphuric acid without any difficulty.

The possibility of the cutting off of our supply of Chilean nitrates by submarine activity is not quite analogous, since shipments from the west coast of South America cannot, in the present development of the submarine, be subject to the same degree of hazard as shipments from Spanish ports. However, the question of a nitrate plant is under consideration and investigations of various processes of nitrogen fixation are at present actively being carried on in the Government laboratories.

D. F. HOUSTON,

Secretary.

Bankers Encouraging Increased Food Production.

At a meeting of Kentucky bankers, held at Louisville last week, more than two-thirds of the banks in the State being represented, steps were taken to give farmers more extended credit within safe limits in order to obtain an increase in the food supply, and also to supply them with tin cans in adequate quantities for preserving foods for winter consumption or for distant shipment. The meeting was called by Governor A. O. Stanley, and Morgan O. Hughes, chairman of the Kentucky Agricultural Committee of the Council of National Defense, presided, with G. G. Speer, State Bank Commissioner, as secretary.

At Nashville, Tenn., the banks decided to authorize a loan of \$100,000 to aid in increasing the production of foodstuffs in the middle part of the State. This will make the money available to farmers at 6 per cent. on short-time notes.

Petroleum Movement in March.

The following comparative summary of crude petroleum movement in March, 1917, represents the operations of 113 pipe line and refining companies which handle or receive oil from various productive fields east of the Rocky Mountains, and is compiled, under the supervision of J. D. Northrop, from reports received by the United States Geological Survey, Department of the Interior, prior to April 27, 1917.

This compilation includes statements filed by 32 companies operating in the Appalachian field, 7 in Lima-Indiana, 5 in Illinois, 44 in Oklahoma-Kansas, 9 in Central and North Texas, 4 in North Louisiana, 6 in Gulf Coast and 6 in Rocky Mountain field.

Crude Petroleum Moved From Field Sources—Barrels of 42 Gallons Each.				
Field.	Mar., 1917.	Feb., 1917.	Mar., 1916.	
Appalachian.....	1,972,683	1,694,636	1,902,859	
Lima-Indiana.....	281,074	218,291	283,781	
Illinois.....	1,412,971	1,189,971	1,465,237	
Oklahoma-Kansas.....	8,686,541	6,999,078	
Central and North Texas.....	409,922	351,686	323,357	
North Louisiana.....	495,448	411,205	754,680	
Gulf Coast.....	765,655	672,861	836,987	
Rocky Mountain.....	966,155	1,026,695	

Crude Petroleum Delivered to Refineries or Consumers—Barrels of 42 Gallons Each.				
Field.	Mar., 1917.	Feb., 1917.	Mar., 1916.	
Appalachian.....	2,386,847	2,208,261	2,202,261	
Lima-Indiana.....	1,442,109	1,370,019	1,707,386	
Illinois.....	663,442	551,965	455,303	
Oklahoma-Kansas.....	4,353,741	3,883,923	
Central and North Texas.....	782,237	576,512	278,274	
North Louisiana.....	245,726	278,594	232,790	
Gulf Coast.....	656,452	515,552	399,577	
Rocky Mountain.....	962,528	753,562	

Stocks of Crude Petroleum at End of Month—Barrels of 42 Gallons Each.				
Field.	Mar., 1917.	Feb., 1917.	Mar., 1916.	
Appalachian.....	6,754,841	7,046,264	7,998,464	
Lima-Indiana.....	4,381,132	4,480,283	4,027,804	
Illinois.....	5,464,115	6,562,947	7,680,687	
Oklahoma-Kansas.....	63,773,191	62,657,282	
Central and North Texas.....	1,014,379	1,030,143	3,648,458	
North Louisiana.....	2,690,335	3,167,225	2,738,100	
Gulf Coast.....	4,735,545	4,533,086	4,710,337	
Rocky Mountain.....	732,537	891,823	

The noteworthy features of the foregoing tabulation include the general increase in the quantity of petroleum moved from field sources in March as compared with February, which quantity in the Appalachian field was sufficient to exceed the quantity moved in March, 1916; the steady increase in crude oil consumption, as indicated by the table of deliveries, and the diminishing

reserve of crude petroleum above ground, as indicated by the comparative summary of petroleum stocks held by pipe line and refining companies.

To the Irvine district, Estill county, Kentucky, belongs the greater part of the credit for the gain noted in petroleum movement from the Appalachian field.

Cotton Fiber Consumed in the Manufacture of Explosives.

During the three months ending March 31, 1917, there were 83,652,907 pounds of bleached cotton fiber, including linters and hull fiber, consumed in the United States in the manufacture of gun-cotton and explosives of all kinds, according to the Census Bureau of the Department of Commerce. This quantity was equivalent to 167,306 bales of 500 pounds each, and compares with 144,988 bales for the corresponding quarter of 1916 and 162,015 bales for the quarter ending December 31, 1916. The quantity of bleached cotton fiber held in establishments engaged in this manufacture on March 31 amounted to 11,284,845 pounds, equivalent to 22,570 bales.

The loss in preparing linters and hull fiber from the wrapped and iron-bound bale to the purified material, as used in nitration, is from 30 to 40 per cent., depending on the condition of the raw fiber, some stock being quite clean and some very trashy. Based on an average loss of 35 per cent., the gross weight of unbleached cotton fiber used in the manufacture of explosives during the three months ending March 31 was 257,394 equivalent 500-pound bales.

Cotton Fiber (Bleached) Consumed in the Manufacture of Explosives.

Period.	Equivalent 500-pound bales (net weight).	
	Consumed.	On hand at end of period.
Quarter ending—		
March 31, 1917.....	167,306	22,570
March 31, 1916.....	144,988	19,933
December 31, 1916.....	162,015	19,754
September 30, 1916.....	133,982	24,686
June 30, 1916.....	142,725	22,895
Calendar year 1916.....	583,710	19,754
Calendar year 1915.....	244,003	30,483

In connection with this report, attention is called to the increased production in recent years of linters and hull fiber, which constitute practically the entire quantity of cotton fiber used in the manufacture of explosives. According to the statistics collected by the Census Bureau, the production of linters for the eight-month period from August 1, 1916, to March 31, 1917, was 1,109,106 bales of 500 pounds each and of hull fiber 318,059 bales. These fibers are also used extensively for other purposes, viz., mattresses, bedding, upholstering, soluble cottons for use in the production of motion-picture films, artificial leather, plastics, etc. Considerable quantities of these fibers are also exported. The quantity of linters exported during the eight months ending March 31, 1917, according to statistics collected by the Bureau of Foreign and Domestic Commerce, amounted to 144,001 bales unbleached and 96,041 bales bleached.

To Mine Virginia Mica.

Virginia mica properties will be mined by the Virginia Mica Corporation of Perkinsville, Va., which organized with \$50,000 capital and the following officers: E. M. Gathright, president, Perkinsville; J. R. Massie, vice-president; T. M. Kennerly, secretary-treasurer; both of Richmond, Va. The president states that prospecting on the company's 200-acre property has already yielded more than 50,000 pounds of mica of fine size and No. 1 quality, the veins being rich and are to be worked with small machinery down to the 125-foot level; later, large deep-mine machinery will be installed.

Virginia Coal and Coke Enterprise.

Coal mining and coke manufacturing in Virginia is planned by the Burneagle Coal & Coke Corporation, Roanoke, Va., chartered with \$1,000,000 capital. This company will develop 3923 acres of coal land, and proposes a daily capacity of 1000 tons of coal, but the number of coke ovens (by-products) has not been determined. Its equipment of machinery will be driven by electricity. James E. Walker is president, with C. S. McNulty as vice-president and J. H. Matthews, secretary-treasurer.

Greater Knoxville Arranging to Carry Out Important Improvements.

By ROBERT P. WILLIAMS, Recorder and Treasurer, Knoxville, Tenn.

The city of Knoxville will expend, within the next few months and until the amount is expended, the sum of \$1,250,000. The recent Legislature has passed an enabling act allowing the city to issue 30-year 4½ per cent. coupon bonds to make various improvements. One of the acts provides for the issuance of \$450,000 bonds that must be submitted to a vote of the people, and the other act provides for the issuance of \$800,000 bonds that must be ordered sold by an ordinance passed by the City Commission. Knoxville's City Commission is composed of Mayor John E. McMillan, Commissioners Sam E. Hill, N. T. Little, J. G. Crumbliss and John W. Flenniken, and in compliance with acts of the Legislature creating Greater Knoxville and authorizing the issuance of \$800,000 30-year 4½ per cent. coupon bonds the City Commission has passed the ordinance on first reading, and within three weeks there will be completed authorization of the sale of these bonds. They will be dated July 1, 1917, and run for 30 years.

The act of the Legislature gives the city a population of more than 85,000 people, while the United States census gave the old city about 37,000, the area of the old city was about 4.5 square miles, and the new city will be about 36 square miles.

Before offering either of these bond issues for sale the city of Knoxville will have them approved as to the legality by one of the leading bond attorneys of the United States. The \$800,000 issue will be in denominations of \$1000 each; 30-year 4½ per cent. coupon bonds will be offered for sale first. They will bear the date of July 1, 1917.

According to the act of the Legislature, this fund will be expended as follows: \$30,000 for streets and schools in Oakwood, \$30,000 for streets, sewers and water mains in Mountain View, \$30,000 for streets, sewers and water mains in Lonsdale, \$10,000 for improvement in school-house Park City, \$100,000 for addition to Knoxville General Hospital, making a total of \$200,000 to be expended in the five old corporations.

The remaining \$600,000, according to the act of the Legislature, will be divided to the various sections of the newly incorporated territory and the funds will be used for extending the water mains, sewers and streets.

The second ordinance, now pending, calls for an election to be voted on by the people, a majority of the vote cast must authorize \$450,000 in bonds for three different items. The ordinance provides that the people shall vote on each item separately; first, \$150,000 for an auditorium; second, \$250,000 for a high school; third, \$50,000 for public parks.

This election has been ordered for the 5th day of July, 1917, and will be held as any other election in the State, the legal requirements being demanded. These bonds will be numbered from 1 to 450, and will run for 30 years, bearing the rate of 4½ per cent. Both issues of these bonds will be made payable, principal and interest, at the Hanover National Bank, New York city. It is quite possible that the city will offer the \$800,000 bond issue for sale about June 1. The \$450,000 issue will not be offered until some time after the election that will be held in July.

New Metal Specialty Plant Locates at Knoxville.

Knoxville, Tenn., April 28—[Special.]—The Hart Manufacturing Co. of Grand Rapids, Mich., will at once remove its manufacturing plant to Knoxville. This company manufactures heating and ventilating systems for schools and public buildings, sanitary drinking fountains and various sheet metal and brass products. The company has secured a new charter, with capital of \$60,000. Last year it did a business of nearly \$300,000, which was an increase of nearly 350 per cent. over the previous year.

The company is locating here because Knoxville is in the Tennessee copper and zinc district. It is believed to be the first in a long train of metal specialty factories to come here, because of the unique position of the Knoxville district, in which are produced copper, zinc, aluminum, iron, in large commercial quantities, with coal fields only 30 miles away; cheap hydro-electric power already developed, marble quarries and cement

plants within easy reach, the great Appalachian timber belt at its doors, and many non-metallic minerals being mined in this section in increasing quantity.

Native labor of quick adaptability is plentiful, and because of the long growing season and mild winters garden truck of every variety is bountifully raised, reducing the cost of living to a minimum.

At no other one place in the South, it is declared, can so many metals be found in such profusion and available with minimum transportation charges for assembling.

While the Knoxville District is rapidly becoming a great hosiery manufacturing center, and its importance cannot be discounted, a great metal manufacturing activity here would be of considerably larger monetary value for a corresponding number of workmen, as the skilled labor employed in metal plants is exceptionally high per capita. In addition to iron and steel specialty plants, Knoxville already has one metal factory of importance, the Fulton Company, manufacturing brass specialties, including a large variety of their thermostatic patented products. This company employs several hundred men at wages decidedly above the average.

Industrial Activities South.

During April the Construction Department of the MANUFACTURERS RECORD published 4479 items regarding Southern industrial developments, erection of buildings and financial and railroad operations, etc. These have appeared in the Daily Bulletin and the weekly publications of the MANUFACTURERS RECORD, and are summarized in the following table. The number of items for April, added to the previously-detailed number of 14,049 for the previous three months, makes a total of 18,528 items for the four months of January, February, March and April.

The detailed statement for April is as follows:

Industrial and Developmental.	
Bridges, Culverts, Viaducts.....	51
Canning and Packing Plants.....	41
Clayworking Plants.....	5
Coal Mines and Coke Ovens.....	122
Concrete and Cement Plants.....	3
Cotton Compresses and Gins.....	15
Cottonseed-oil Mills.....	2
Drainage Systems.....	10
Electric Plants.....	75
Fertilizer Factories.....	8
Flour, Feed and Meal Mills.....	3
Foundry and Machine Plants.....	31
Gas and Oil Enterprises.....	29
Hydro-electric Plants.....	181
Ice and Cold-storage Plants.....	11
Iron and Steel Plants.....	28
Irrigation Systems.....	9
Land Developments.....	5
Lumber Manufacturing.....	36
Metal-working Plants.....	74
Mining.....	69
Miscellaneous Construction.....	20
Miscellaneous Enterprises.....	74
Miscellaneous Factories.....	131
Motor Cars, Garages, Tires, etc.....	95
Railway Shops, Terminals, Roundhouses, etc.....	6
Road and Street Work.....	239
Sewer Construction.....	59
Telephone Systems.....	11
Textile Mills.....	23
Water-works.....	63
Woodworking Plants.....	20
Buildings.	
Apartment-houses.....	125
Association and Fraternal.....	31
Bank and Office.....	74
Churches.....	113
City and County.....	113
Courthouses.....	18
Dwellings.....	425
Government and State.....	44
Hospitals, Sanitariums, etc.....	33
Hotels.....	70
Miscellaneous.....	49
Railway Stations, Sheds, etc.....	24
Schools.....	278
Stores.....	184
Theaters.....	20
Warehouses.....	51
Railroad Construction.	
Railways.....	70
Street Railways.....	7
Financial.	
Corporations.....	73
New Securities.....	448
Fire Damage, etc.....	3,743
Machinery, Proposals and Supplies Wanted.....	175
	561
Total for April.....	4,479
Previously detailed since January 1.....	14,049
Total for four months.....	18,528

William J. Frees, president of the Austin Securities Co., Austin, Tex., is interested in a plan to establish a cotton cordage and twine mill. He wants data and prices on the necessary machinery.

Modern High-Grade Hydro-Electric Equipment Adapted to Smallest Plants as Well as Largest.

By H. H. WHITE, Sales Engineer, Atlanta, Ga.

Much has been written of the modern large hydro-electric equipment, but it remained for the Wofford Shoals Light & Power Co., Cornelia, Ga., to show that the small hydro-electric plant could surmount its obstacles with modern, or, if you please, unique modern equipment, as well as the biggest of this country's plants.

Problems were worked out and machinery put in, that horse-power for horse-power is second to none in the world. In fact, for the size of this plant, much better and higher-grade equipment is used than is found in many of our noted larger developments.

This plant supersedes a temporary plant that was furnishing power for the town of Cornelia, Ga., and during the construction of the new plant, the dam of which was just above the present temporary plant, provision had to be made to insure the uninterrupted operation of the old plant.

A few feet above the old intake a site was selected for the dam. This dam is of reinforced concrete of the Ambersen type, 31½ feet high and 158 feet long on top, the buttresses being 10 feet on centers and all footings being on solid rock. Of this length at the crest, 70 feet comprise the spillway, and the balance is taken up by buttresses, the trash racks and intake and core walls. Mr. H. M. Nabstedt, C.E., was the engineer in charge of the dam design and construction.

About 1060 feet below the dam in a gorge is located the power-house, this distance giving a drop sufficient for a normal head of water of 160 feet.

To convey the water to the water-wheels it was decided to use a 30-inch inside diameter wood stave pipe in which the water velocity would never exceed five second feet. The course of this pipe line makes almost a 90-degree horizontal turn and then reverses over 24 degrees, besides the downward gradient, to overcome the natural obstacles of that rough country. While wood stave pipe adapts itself to laying in curves, it was found in one or two cases that specials, such as connection to standpipe and elbows, would have to be used, and it being impossible to get any foundry to get these out in time, concrete block were substituted, in which more cement was used than usual and extra reinforcing.

The wood stave pipe is what is known as the manufactured stave pipe, and is different from the commonly known continuous stave pipe built up on the ground and bound by iron rods and lugs, in that the pipe line is made up into sections from 4 feet to 12 feet long. Each stave is double tongued and grooved, and after being fitted around the circumference for which the pipe is built, it is wound spirally by a flat mild steel band. This band is first run through a hot bath of asphaltum and then onto the wood pipe, thus giving a coating of asphaltum between the wood and the steel; then the whole pipe is given two coatings of hot asphaltum on the outside over steel bands and wood and then rolled in sawdust. After this is done a tenon 4 inches long is cut on one end of each section of pipe half the thickness of the shell of the pipe, and the other end of each section has a socket cut 4 inches deep and about half the thickness of the shell. Thus the pipe is assembled on the ground by driving the tenon on one end of a section into the socket on the end of the section preceding. A very tight joint is the result, and when water is put in the pipe the natural swelling of the wood, due to saturation, makes a perfectly tight joint that does not leak. No packing or caulking materials are therefore needed. This pipe was built of Canadian first growth white pine and furnished by the A. Wyckoff & Son Co. of Elmira, N. Y.

Due to the length of this pipe line and the fact that the load changes would be sudden and severe, it was found advisable to furnish a standpipe to take care of the water surges caused by the governor action, and it was decided to locate this at the most available place about 695 feet from the dam. The pipe line from the dam was made of 43-pound pressure pipe to take care of the 51-foot drop in elevation from the dam to the standpipe. The pipe from the standpipe to the power-house, a distance of 338 feet, and with a drop of 85 feet, was made of 86-pound pressure pipe. The pipe was connected to the standpipe by fitting the tenon of

the stave wood pipe into sockets left in the concrete base of the standpipe.

The standpipe is made of steel plate, and is 75 feet high and 6 feet in diameter. Forty feet of this was made of No. 8 Birmingham gauge steel and the balance of No. 10 gauge Birmingham.

At the power-house in the gorge the wood stave pipe connects to the steel feeder pipe that feeds the two water-wheel units.

These two units are of the latest Francis type scroll case horizontal shaft single runner single discharge turbines of 150 horse-power each, running at 900 R. P. M., and are direct connected to General Electric Co. generators. Between the water-wheel and the generator is furnished a flywheel to assist and assure good speed regulation.

The old temporary plant had a wheel that gave considerable trouble, due to sand in the water getting into the bearings and stuffing glands and thus wearing out the shaft. Therefore, the new wheels were carefully designed, with extra heavy shafts, and provision was made to keep as much of sand and grit out of packing boxes and glands as possible. All bearing and operating mechanism for the water-wheel gates were brought outside of the scroll case, where they could be kept well lubricated and free of sand and gritty water and where they would be most accessible.

The runners and gates were made of Niagara bronze, and the thrust of the wheel was taken care of by a ball thrust bearing at the discharge end and located outside the discharge elbow. The gates are operated by the governor shaft, which rotates only 45 degrees and opens and closes the gates by means of push and pull rods connecting the gate ring with this gate shaft. All of this gate mechanism is located outside the scroll case, and therefore out of the water.

Between the water-wheels and the feeder pipe was furnished an iron body bronze mounted Ludlow gate valve, so that in case work had to be done to any wheel the gate valve at the intake of the wheel could be shut and not require shutting down the whole plant.

The water-wheels and parts were furnished by the Jas. Lefel & Co. of Springfield, O., who in laying out this water-wheel equipment located the wheels side by side on 10-foot 6-inch centers. The shaft of the wheels is 17 feet from the top of the water in the tailrace, and back water can never come up to the power-house floor. The discharge of the wheels is made through elbow into steel-riveted draft tube.

The governors, with special unique apparatus provided to insure perfect speed regulation under variable load, were furnished by the Woodward Governor Co. of Rockford, Ill. They are of the open system type oil pressure, and with the one central pumping system, as the modern big hydro-electric plants have adopted. That is, there are two governor mechanisms, with only the one motor driven pumping unit, and all interconnected, so that no matter what unit is running, the pump is driven independently.

All in all, and horse-power for horse-power, this plant is second to none. Mr. John A. Wells, manager of the company, carried on this work under his personal supervision. Great credit is due him for his untiring efforts in realizing the successful completion and operation of the plant.

FOREIGN NEEDS

Opportunities for Cuban Trade.

CUBAN PUBLISHING CO., Department Commercial, Ant. Azuar, General Manager, Habana, Cuba.

I wish you would put me in touch with those factories of your country which can supply me, on the best terms, the following: Containers of glass, of definite capacities for holding mucilage and liquid pastes; paper tubes, suitable for forwarding by mail reviews, catalogues and other printed matter; machinery for making the tubes described above, together with quotations and prices for the paper board for the same; matches, special and regular, mounted in strips of 10 to 30 matches for books, and also emery in strips for lighting the same; pencils or small brushes for use with the paste pots. We have a large stock of crimson flamingos to sell to buyers. We wish to find purchasers

for sponges, well bleached and unbleached. We would like to know of firms which can sell the best line of articles for advertising purposes, such as penknives, pencils, paper-cutters, etc. We are publishing a directory of owners of automobiles in Cuba for manufacturers of automobiles and accessories, so that they may avail themselves of it for dealing directly with those who have cars. I would like to put an advertisement in your important periodical as soon as an agreement is reached. Kindly let me know your rates.

For Trade in Paraguay.

ENRIQUE CLAIR, Hnos., Constructors of Modern Buildings, Casilla de Correo 587, Asuncion, Paraguay, S. A.

I feel I can get into business relations with the great and progressive North American nation, accepted among us as the real head of civilization and the advancement of the interests of humanity, commerce and manufactures. I intend to handle interesting novelties, toys for children, notions and small articles of little value, for use as premiums; also iron work and hardware for doors and windows; measures; levels; plummets; lead (graphite) and trowels for brickmasons and builders; paper for designs and plans; carbon paper; curiosities; novelties of all kinds; cheap toys. I learn there is an establishment in Argentina called the "Yankee Bazar" which carries stock of many notions and novelties I wish, but it is not possible for me to purchase from them directly on account of the exactions of commissions and custom charges, which are high there. Write in Castilian, if possible.

Cycle Accessories, Motor Cars, Typewriters, Etc.

R. PEQUENO, Apartado de Correos 335, Barcelona, Spain.

Your review is one of the leading industrial and commercial newspapers of the United States. Therefore, I inform you that I am specially interested to represent American manufacturers of rebuilt typewriters, bicycle accessories, motor cars and supplies.

Rails, Steel Rods and Sheets.

ARTHUR M. LOEB & Co., P. O. Box 235, Ancon, C. Z., Panama.

Large quantities of steel rods $\frac{1}{4}$ to 1 inch, suitable for reinforcement 10 feet or over; light rail, 8 to 20 pounds; galvanized sheets, flat and corrugated, 24, 26, 28 and 29 gauge; scraps or seconds; give lowest price.

Norway Wants American Shoes.

HJALMAR MINDE, P. O. Box 184, Bergen, Norway.

Give me addresses for first-class firms interested in a permanent business, for footwear and galoshes, in agency or sole connection basis for Norway, terms cash against documents at American bankers.

Spain Needs Machinery.

A. DE MALANDER, Consulting Engineer (of Barcelona), 200 Broadway, New York.

Please insert in your columns a call for catalogues on bending brakes, metal shears, plate straighteners, machinery for barrel making and for wheel making, stump-pullers.

Spain Wants Textile Machinery.

RICARDO FUYET, 338 Aragon, Barcelona, Spain.

I wish to learn the addresses of builders of machinery for making braid, braided cord and webbing for braces, girdles and supporters, with or without gum-elastic.

I enclose as sample a small piece of non-elastic fabric such as I wish.

MECHANICAL

Automatic Pole Type Constant Current Transformer.

The first automatic pole type constant current transformer for use with series street-lighting systems at points distant from the central stations has been perfected by the General Electric Co. The unique feature of this type is that it is mounted on a pole and is operated by an oil time switch. There are no new and untried principles or parts. It is a consolidation of various features previously tried and proved right. It is entirely automatic in operation, is submerged in oil, mounted in a weatherproof tank and requires no care or attention after it has been properly installed. For indoor use it may be mounted on the station wall or ceiling if floor space is at a premium.

This Type R. O. Transformer fits into the lighting companies' systems where transmission conditions arise which would require a substation with control panels and attendants, but where the amount of business obtainable and construction costs make such an installation impracticable. It has therefore been difficult to provide street lighting for smaller towns and villages where the revenue derived would be comparatively small. Larger cities also have experienced difficulty in solving the demand for higher intensities and more units in their suburbs. When it becomes impracticable to run circuits from the control station, on account of the distance and the copper required, it is not always advisable to erect a substation. The Type R. O. Transformer was designed for this service, and fills this demand. The current from full load to no load is maintained within 1 per cent. of normal. This feature alone materially prolongs the life of Mazda lamps operating on a circuit controlled by such a transformer. The



AUTOMATIC POLE-TYPE TRANSFORMER.

efficiency is the same as for the station type transformer and has a high power factor.

For the operation of Mazda C lamps this transformer has material advantages. The high initial reactance serves to protect the lamps at starting and acts instantaneously to check surges on the line which would shorten lamp life. The transformer may be tipped 10 degrees from a vertical position in any direction without affecting the regulation.

Each transformer is mounted in a cylindrical steel tank with leads brought out through bushing holders similar to a standard power transformer. This tank is filled with the same high-grade insulating oil used in G-E standard type H transformers. All precautions have been taken to make the R. O. Type Transformers weatherproof, and after being installed they should require no more attention than a constant potential pole type transformer.

This Type R. O. Transformer is a product of the General Electric Co., Schenectady, N. Y.

The Iron, Steel and Metal Trades

GOVERNMENT ACTS TO PROTECT STEEL MARKET.

Mills to Accept Contracts at Outside Prevailing Prices—Allied Commissions Submit Reports on Methods Adopted Abroad—Steel Plants Strive to Increase Output—Pig-Iron Quotations Go Higher.

New York, April 30.—[Special.]—The danger that the entrance of the United States Government as an open buyer in the steel market would bring about a condition of demoralization such as has occurred in copper is now passed. At a conference last week between the Council of National Defense and the steel manufacturers the fact was brought out that the latter will provide for the acceptance of Government contracts at the present outside market prices of the various products required by the Government, or close enough thereto to prevent any demoralization of the market. The tonnage for Government use, which will take precedence over private business, it is expected, will be very heavy, and the pressure on mill capacity will be increased from another direction to meet urgent requirements for railroad and structural material of all kinds to Europe. An understanding between the Government and the steel manufacturers also makes it unnecessary for bids to be advertised. Tonnage will be apportioned among the mills.

Among other things that were discussed last week at the conferences of the British and French Commissions with the American authorities were the methods which Great Britain and France put into effect in obtaining munitions and other similar supplies for the army and navy. The British delegation submitted a report which shows how England developed workable methods in buying vast quantities of Government stores and making enormous construction contracts. Cost accounting is at the basis of the system for securing reasonable prices on war materials. Under an amendment to the Defense of the Realm Regulations, passed February 15, 1916, the British authorities have power to requisition, if necessary, the output of factories and industrial plants, and the amendment provides that in determining the price to be paid for the output of those factories or plants "regard need not be had to the market prices, but shall be had to the cost of the production of the output so requisitioned, and to the rate of profit of such factory or plant before the war, and to any other circumstances of the case."

The amendment gives the Government power to requisition the output of a factory or plant, and to pay for its output a fair, agreed price, which the contractor has to show is reasonable by producing his costs of manufacture and satisfying the expert advisers that it is reasonable. This system has been recommended by the British Commissioners to the United States. It is believed that eventually it will be adopted, since at present the Government is relying upon the patriotic offers of the great industrial companies, such as the steel, copper and oil interests, to give low prices, while many of the Government contractors are trying to get these raw materials at the lowest cost and yet obtain large prices for the finished product from the Government.

At a meeting of the officials of the various steel manufacturing companies at Washington on Thursday it was agreed that the tonnage required by the Government should be divided equally, according to the capacity of the mills, and price arrangements made between the steel interests and the Government of 2.90 cents for plates and 2½ cents for structural shapes and bars were approved.

Rumors became more persistent among steel circles last week that the great Government loan to the Allies, which will be known in history as the "Liberty Loan of 1917," will shortly facilitate new foreign buying of steel products which will come under the direction of Great Britain. France, with a new credit, will also soon be in the market. Steel manufacturers are not in sympathy with the suggestion that the United States Government take over the purchase of steel for its allies at the same quotations that were offered to it. Thus far no foreign contracts have been placed by the

Washington authorities. When they do so, Government officials will probably have to engage in a tilt with the steel manufacturers as to prices.

As each day goes past the steel situation appears to gain in strength. Buyers are insistent in their demands, and the mills are hard pressed to meet them. Already crowded to capacity on current orders, which go forward with all possible speed, production, to add to present exigencies, is being hampered to not a little extent by difficulty in securing all the necessary labor and for lack of adequate transportation facilities. This latter difficulty has brought forth an order from the General Railroad Board of the Council of National Defense, directing the roads to give coal and iron shipments the preference over other products.

Though a falling off in orders from domestic sources was noticeable last week, there was no halt in the upward movement of finished steel prices. Billets and sheet bars are \$5 a ton higher than a week ago, wire products \$6, merchant steel bars \$3 and structural shapes \$8. Generally speaking, these advances have occurred simply through lower prices gradually disappearing rather than by formal announcement of an advance by any leading interest. The letting up in the demand from domestic sources is due to the fact that producers are not accepting new contracts, and in taking orders for future delivery they are subject to Government requirements, which may be accepted to the exclusion of all other material sold. New business is about one-third of what it was at his time last year. Fearing that Government work would shut them out entirely, consumers have been very insistent on deliveries, and as a rule are ordering three or four times more material than they actually require. From the West comes the information that manufacturers are declining all further orders, and how or where to obtain supplies is getting to be a serious problem for consumers. The mills, large and small, decline further quotations for this year, and the uncertainty as to what the position will be during 1918 has resulted in refusals for the time being to enter into engagements for next year. Even premium prices at Chicago have not proved sufficient to ensure prompt delivery, for the simple reason that there is no longer such a position.

The position of the steel market as a whole is such that it is no longer possible to quote a standard price for anything. All depends upon the attractiveness of the order and the ability of the seller to take it on subject to delivery requirements of the buyer. Some of the leading manufacturers marked up the price of structural shapes last week; for example, to 4¼ to 4½ cents per pound, according to specification and terms of shipment, while other producers increased the range between the minimum and maximum prices. In other words, while there is apparent reluctance to make a specific and substantial advance, there is a general stiffening all along the line, and terms which were acceptable less than a fortnight ago are no longer to be had.

Favored by improved transportation facilities—the car supply now reaching close to 85 per cent.—and pressed for material on all sides, steel plants throughout the country are energetically striving to increase their output as never before. Usually the greatest production of steel products occurs in March, or in October and November, of each year, when weather conditions are most favorable. This year there were too many drawbacks to establish new high records in March, but it is hoped to accomplish in April that which was impossible last month. Thus far great progress has been made, and it now seems probable that an output of 3,575,000 tons of ingots and 2,675,000 tons of rolled steel products will be produced by steel companies in combination. The United States Steel Corporation alone, it is expected, will produce close to 1,800,000 tons of ingots and 1,350,000 tons of rolled products. Apparently shipments are exceeding production, as more of the accumulated stocks of the past three months are going into consumptive channels. Shipments in April of the United States Steel Corporation alone will reach close to 1,400,000 tons, it is estimated.

The volume of new business for April has exceeded production. If the large contracts for the United States Government are entered in full, the April or-

ders will exceed shipments by 250,000 tons, as far as the United States Steel Corporation is concerned, and double this tonnage including independent companies. In April, 1916, the corporation booked orders for a little over 1,768,000 tons, but in March the orders exceeded 2,000,000 tons.

The American Steel & Wire Co. took orders this month at a rate of a little over 100,000 tons, but could have taken twice this tonnage if it had accepted all the contracts offered. Many domestic consumers are anxious to purchase 25 to 50 per cent. more than they purchased last year, but they are being held to normal amounts by the wire concern. This fact has probably given rise to the erroneous reports that the American Steel & Wire Co. had withdrawn from the market.

Railroad equipment orders since the first of April have called for only 300,000 tons of rolled steel, including 100,000 tons of rails. This is a sharp falling off, compared with the tonnage ordered during last month, due chiefly to the smaller number of cars and locomotives bought. Less than 5500 cars and 156 locomotives were ordered this month from builders, who in turn have contracted for about 100,000 tons of rolled, cast and forged steel. The Pennsylvania Railroad has closed contracts for about 18,000 tons of plates and shapes for car construction at its own shops. Several other roads in the West and South have placed an aggregate of about 8000 tons for the same purpose. These orders are in excess of the steel purchased by the merchant builders of cars and locomotives.

About 200,000 tons of rail were sold during the month at conditions of mill convenience for delivery into 1919, 30,000 tons having been booked in the East. At Chicago the Union Pacific has asked for 30,000 tons for 1918, and the Illinois Central for 60,000 tons for 1918 and 1919. Prospective foreign orders for railroad equipment call for a huge tonnage of steel. Russian prospective contracts alone call for 800,000 tons of structural steel. Thus far Russia has proved very dilatory in placing contracts for railroad equipment. It will be recalled that one large inquiry for rails put out in the fall of 1914 was not closed until five months later, but with the financial aid of the United States Government there may be less delay in the placing of contracts, depending upon the ability of the railroad equipment manufacturers to secure an adequate tonnage of steel.

There was a very pressing demand for wire rods last week, the minimum open price now being \$80 per ton. In exceptional instances a few lots were sold at \$75 a ton, but the tendency is toward higher prices, and the American Steel & Wire Co. will make sales only upon specific consideration of each special inquiry as it is made. The largest interests are refusing to entertain bids for any wire products from manufacturers on a contract basis, but are accepting current orders. This policy has resulted in the curtailment of about 50 per cent. of the business taken this month as compared with the orders entered in March.

Of growing importance is the agricultural implement trade, which languished during the early period of the war, when exports were cut off. The "back to nature" cry has created a tremendous domestic inquiry, and bar mills will be pushed to the utmost to meet this increased demand.

The Government last week contracted for 1000 tons of sheets to be used in the manufacture of camp equipment and powder tanks. The mills quoted the Government 6.75 cents for black sheets and 6 cents for blue annealed sheets, showing that no favors were being asked. On the other hand, the Pittsburgh mills have quoted the Government 5 cents and 5½ cents for sheets to be made into helmets, camp ranges, buoys, mines for coast defense, etc.

In keeping with market conditions, which are taxing the fullest capacity of the furnaces, the prices for pig-iron climbed up at a surprisingly fast rate last week. While there is less demand for distant position than for spot, and prices are relatively lower, the general demand for pig-iron in all or any position keeps growing, and the furnaces are not keeping pace with it. Some of the producers are so far sold ahead that they decline to enter upon further engagements. Others, willing to enter in contracts, are marking up their asking prices as inquiries become more pressing. The underlying strength of the market is shown in other ways than of a well-sold-up condition.

Car shortage is seriously increasing the difficulty of getting transportation for the ore down to the upper lake ports in preparation for the opening of naviga-

tion, when unusually heavy lake shipments are due to commence. The order issued by United States Government authorities to the carriers that ore shipments shall be given preference is significant. It indicates a realization of the fact that a shortage exists, and that of all products at the moment, the least that can be dispensed with for either economical or industrial purposes is iron, and second to this is coal to convert the ore into metal. It is reported on excellent authority that the furnaces will require 70,000,000 tons of ore this year over and above the stocks now at lower lake ports, but that unless the car service improves, it will be impossible to bring down over 50,000,000 tons.

With furnaces working at capacity, the effect of a shortage of 20,000,000 tons of ore may well be expected to have a serious bearing upon the market.

(Dealers' average buying prices for gross tons.)	
Bessemer billets (nominal).....	\$ 80.00—\$ 85.00
Open-hearth billets (nominal).....	80.00—85.00
Open-hearth sheet bars.....	80.00—85.00
Bessemer sheet bars (nominal).....	80.00—85.00
Forging billets.....	100.00—110.00
Wire rods.....	90.00—95.00
Rails.....	60.00—61.00

(Dealers' average buying prices for pound lots.)	
Tank plates.....	\$ 4.50—\$ 8.00
Steel bars.....	3.50—3.75
Refined iron bars.....	3.75—
Steel hoops.....	4.00—4.50
Cold-rolled strip steel.....	7.50—8.00
Sheets, No. 28 gauge.....	6.50—7.00
Galvanized sheets.....	8.00—9.00
Wire nails.....	3.50—
Cut Nails.....	3.50—
Plain fence wire, base.....	3.45—
Barb wire, galvanized.....	4.35—
Railroad spikes.....	3.85—

PIG-IRON.

Bessemer, Pittsburgh.....	\$ 42.95—\$ 45.95
No. 2 foundry.....	40.95—42.95
Basic, valley.....	40.95—
Gray forge.....	38.95—41.95
Basic, Philadelphia.....	40.00—
No. 2 foundry, Northern.....	42.75—43.75
Low Phosphorus.....	75.00—
No. 2 foundry, Buffalo.....	42.00—45.00
No. 2 South, Cincinnati.....	37.90—38.90
Northern foundry, No. 2 Cleveland.....	40.30—42.30

SCRAP-IRON AND STEEL.

Heavy melting steel.....	\$ 28.00—\$ 29.00
Old iron car wheels.....	25.00—26.00
Old steel car wheels.....	31.00—32.00
Steel car axles.....	45.00—47.00
Iron car axles.....	45.00—47.00
Low phosphorus.....	38.00—39.00
No. 1 cast scrap.....	24.50—25.00
Heavy cast scrap.....	21.00—22.00
No. 1 railroad wrought.....	30.00—31.00
Cast borings.....	15.00—15.50
Machine-shop turnings.....	14.00—14.50
Railroad malleable.....	22.50—23.50

METAL MARKETS IMPROVE ON STATEMENT OF GOVERNMENT PLANS.

Council of National Defense Prepares Specifications for a Large Quantity of Copper, Lead and Spelter—Prices of Former Steady, But Latter Declines—Tin Active.

New York, April 30—[Special.]—Out of chaos there may now soon come a definite understanding as to the markets for copper, lead and spelter. The Council of National Defense is stated to be preparing specifications for about 100,000,000 pounds of copper, 15,000 tons of lead and a large quantity of spelter, the size of which tonnage has not been as yet announced. While the markets for all of these metals on the receipt of the news last week showed a slight improvement, yet the business done was of small proportions, and prices were fairly steady, with weakness shown in spelter.

The former purchase of copper by the Government was 45,000,000 pounds, and was paid for at 16½ cents, which had the effect of throwing the market entirely out of gear. It is reported on good authority that the Government will purchase the second large instalment of copper at about 10 cents in excess of the previous price, or in the neighborhood of 25 cents a pound. This offer of the Government, while it will probably have the effect of restoring confidence and create a better demand for copper than has been manifested during the past month, has not served to stimulate buying to any degree as yet, and the market last week was a trifle easy, although showing symptoms of steadiness toward the close.

The lead market became excited toward the close of last week at the news from Washington that the Government requirements for the metal would aggregate a tonnage of 15,000 tons, and that the price was to be 4.70 cents per pound St. Louis. It is expected that the order will be closed out within the next few days. Pending the negotiations with the Council of National

Defense in charge of Government interests there has been a natural inclination on the part of private consumers to stay out of the market, and thus far they continue to do so. The receipt of the news from the National Capital had a tendency to weaken the market, but the natural position of lead just now is strong, and sellers are not in the mood to make concessions.

A committee representing the large producing companies of spelter was appointed last week, and is now in conference with the members of the Council of National Defense, with a view of coming to an agreement as to the price at which the Government will shortly purchase the metal. It is rumored that this price will be 5.85 cents, although thus far no definite information is forthcoming. It is also expected that contracts will be closed within the next fortnight. The tonnage has not yet been announced. As the producers of spelter are dependent upon the miners of the ore, and as the cost of ore naturally enters largely into the

proposition, a final understanding on the exact terms and tonnage cannot be reached until the ore men become in turn a party to them. The market showed a slight improvement, but prices eased off a trifle under continued lack of any strong demand.

With the price of tin at London last week advanced, it was only natural that the market here should respond, and sellers were firmer in their views than ever. The situation of the market at present appears to be decidedly bullish, and with the present limitations on imports and the higher cost of freight and insurance, on one side, and on the other a consuming demand growing constantly more urgent, the chances favor a genuine scarcity at proportionally higher prices later on. Much depends upon the freedom with which tin is allowed to come forward from the East.

Arrivals of tin for the month were 2145 tons, and stocks afloat on unknown steamers from the Straits are 2812 tons.

THE WEEK'S PRICES.

	Lake.	Copper.	Electrolytic.	Lead.	A. S. & R. C.	Independent.	Spelter.	Tin.
Monday, April 23.....	30.50—31.00	30.00—31.00	30.00—31.00	9.00	9.67½—9.75	9.75	8.92½—9.17½	57.25
Tuesday, April 24.....	30.50—31.00	30.00—31.00	30.00—31.00	9.00	9.75—	—	8.92½—9.17½	57.50
Wednesday, April 25.....	30.50—31.00	30.00—31.00	30.00—31.00	9.00	9.75—	—	8.92½—9.17½	58.00
Thursday, April 26.....	30.50—31.00	30.00—31.00	30.00—31.00	9.00	9.75—	—	9.05—9.30	58.25
Friday, April 27.....	30.50—31.00	30.00—31.00	30.00—31.00	9.00	9.75—10.00	—	9.17½—9.42½	58.75

Birmingham Pig Remains Firm at \$35—Steel Production at the Maximum.

Birmingham, Ala., April 30—[Special.]—Quotations of pig-iron in the South have been taking on a new minimum practically every day recently. But little iron, except it be for regular customers, is obtainable for what is now termed immediate delivery, the latter half of the year, and the numerous inquiries that are being received are being answered with information that only first half of the coming year will be considered. Thirty-five dollars per ton No. 2 foundry standard appears to be the market quotation in this section, though there are reports that \$33 per ton will be acceptable on next year's business. Some few car lots of iron, special analysis or special brand iron, have been delivered recently in this district at \$40 per ton, while a car lot or two was recently rushed out of Birmingham, No. 2 foundry standard, at a price as high as \$38 per ton. Contracts have been made for a small tonnage, delivery during the last quarter of this year and the first three months of 1918, at \$36 per ton standard No. 2. The Republic Iron & Steel Co. has started delivery on orders which had last half of year stipulated in contracts, this being done at requests of purchasers, and the car shortage and embargoes in other directions preventing shipment on other orders. In this manner there will be a steady outward movement of iron, with no delay, on regular business, save by reason of the railroad embargo troubles.

Export business offered is not being handled in the South, as far as can be learned, shipping not being obtainable from this end and the domestic demands being about as strong as is desired.

The Birmingham Trussville Iron Co., E. A. Shedd, Chicago, president, and John H. Adams, Birmingham, general manager, holding company, has started work on the rehabilitation of the old Trussville furnace and outfit, including 300 beehive coke ovens adjacent. The Trussville Iron Co., a formality, was incorporated in Birmingham the past week with capitalization of \$2000, but the parent organization proposes to not only put the Trussville furnace into commission, but to make provision in future to consume the crude iron. Thomas F. Dowling, general superintendent of the La Follette Iron & Coal Co., Tennessee, will be superintendent of the Trussville furnace, where he was located for many years.

The Sloss-Sheffield Steel & Iron Co. is again making iron with its No. 1 city furnace, relining and repairing being accomplished in less than a month's time, a record-breaker. Work is being rushed on the repairing of the 288 beehive coke ovens adjacent to the city furnaces, and the hope is expressed that within another two weeks some of the ovens will be ready for operation.

Car shortage was felt more in the Birmingham district during the past week than since the first month of the year. However, it is believed there has been a reduction of accumulated stocks of iron. The make for the past month will show a difference in comparison with the figures of March. Representatives of brokers in the far East have been to the Birmingham district looking into the situation as to deliveries. Troubles at

the starting point have been investigated and some inquiry made as to the future probabilities as to iron.

Operations at steel mills in the Birmingham district show no changes, production being at maximum. No announcements are being made here as to the proportion of the Government needs to be supplied from this section. Labor conditions, it is expected, will be easier this month in steel circles, inasmuch as the various corporations announced the bonus plan, or, in other words, an increase in the wages and salaries of employees, effective May 1.

Quotations are given as follows:

PIG-IRON.

No. 1 foundry and soft.....	\$36.00 to \$38.00
No. 2 foundry and soft.....	35.00 to 36.00
No. 3 foundry.....	30.00 to 31.00
No. 4 foundry.....	29.00 to 30.00
Gray Forge.....	28.00 to 29.00
Basic.....	35.00 to 36.00
Charcoal.....	40.00 to 42.00

OLD MATERIAL.

Old steel axles.....	\$35.00 to \$36.00
Old steel rails.....	22.00 to 23.00
No. 1 wrought.....	25.00 to 25.50
Heavy melting steel.....	20.00 to 20.50
No. 1 machinery.....	21.00 to 21.50
Car wheels.....	18.50 to 19.00
Tramcar wheels.....	20.00 to 20.50
Stove plate.....	13.00 to 14.00
Shop turnings.....	8.50 to 9.00

Textile Notes.

The Hetrick Hosiery Mill, Walhalla, S. C., has plans for an enlargement at Walhalla and has purchased site for building a 215x50-foot branch mill at Anderson, S. C. This company was recently mentioned as planning to increase capital from \$33,000 to \$50,000.

Organization has been effected by the Santee Mills of Orangeburg, S. C., mentioned last week as incorporated with \$225,000. Officers as follows: Wm. Elliott, president; H. K. Drew, vice-president; E. W. Mullins, secretary; F. E. Whitman, treasurer; all of Columbia, S. C.

The Erwin (Tenn.) Knitting Mill has been incorporated and officers have been elected as follows: H. G. Morrison, president; F. M. Kelly, secretary; both of Johnson City, Tenn. This company was recently mentioned as organized with \$10,000 capital for knitting hosiery.

Contract for building a two-story brick addition to the Anniston (Ala.) Knitting Mills has been awarded to Ogletree & McClurkin. The company will add 100 knitting machines, and this new equipment has been ordered. It has decided upon an increase of capital to the extent of \$25,000.

Goodrich & Clark, Augusta, Ga., will prepare plans for an additional mill to be built by the Southern Press Cloth Co. of Augusta. This addition will be two stories high, of mill construction, with tar and gravel roof, containing 22,084 square feet of floor space. There will also be a boiler-house addition. All to cost \$25,000.

J. J. Ashe, Reagan Ashe, C. K. Swan, Walter Darnell and W. C. Skaggs have incorporated the Ashe Hosiery Mills, Knoxville, Tenn., with \$25,000 capital. This company has a suitable building, and it will remodel this structure for equipment with machinery having a daily capacity of 650 dozen pairs of hose.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

WHEELING & LAKE ERIE CHANGES HANDS.

Rockefeller Interests Get Control and Will Handle It in Connection With Western Maryland.

It is announced in New York that the Rockefeller interests, which are dominant in the Western Maryland Railway Co., have obtained control of the Wheeling & Lake Erie Railway Co., and it is rumored that the purpose is to combine the two in some way to make a through line to Chicago. The Wheeling & Lake Erie runs northwest from Wheeling to Cleveland and Toledo, O., but it also reaches Lorain, Canton, Massillon, Zanesville and other important points. It has 400 miles of line. Control, it is said, was acquired by the purchase of \$11,450,000 par value of 7 per cent. prior lien stock from Kuhn, Loeb & Co. and Blair & Co., the reorganization managers, the road having but recently emerged from a receivership.

The Wheeling & Lake Erie Railway secures a connection into Pittsburgh via the Pittsburgh & West Virginia Railway, which connects with it at a place known as Pittsburgh Junction, 31 miles northwest of Wheeling. This latter road was formerly the Wabash Pittsburgh Terminal Railway, but was recently reorganized and renamed. Thus by this route a connection could be established with the Western Maryland, which reaches Pittsburgh over the New York Central's line from Conneville, Pa.

Whether there is any idea of making a new through route west over the Wheeling & Lake Erie road is purely matter for speculation, for the Western Maryland is already running trains between Baltimore and Chicago in connection with the New York Central system, but the acquisition of the Wheeling & Lake Erie will open up extensive traffic territory that is highly productive to the Western Maryland Railway and which it can enjoy by operating through the Pittsburgh gateway. The map shows that the road lies on the State of Ohio like a huge X, within the limits of which are some of the richest parts of the Commonwealth. The road also has some valuable trackage rights for freight on other roads to facilitate the movement of business between important points.

Simultaneously with the announcement of this deal the report that the Western Maryland Railway will enter Washington by means of a connection with the Washington & Old Dominion Railway that runs from Washington to Bluemont, Va., is revived. But there has never been any confirmation by the Western Maryland folks of this story; on the contrary, the company has expended large sums of money upon its Port Covington terminals at Baltimore, and is preparing to spend more there from time to time to meet the needs of its steadily-growing business.

BALTIMORE & OHIO EARNINGS LARGE.

But Operating Costs Are Heavily Increased by Eight-Hour Law.

In issuing its statement of earnings and expenses for March and for the first three months of the calendar year the Baltimore & Ohio Railroad Co. remarks that the large increase displayed in the item of transportation expenses is due mostly to the adjustment of the wages of trainmen to meet the requirements of the Adamson eight-hour law from January 1, when it became effective under the decision of the United States Supreme Court. Thus the men will receive back pay from that date, the railroads having kept account of their time pending the decision.

The statement shows operating revenue of \$9,692,796, the largest earnings for March in the company's history, it is said, and \$423,055 more than in March of last year. Total operating expenses were \$8,223,959, increase \$1,141,792; net operating revenue \$1,468,837, decrease \$718,737.

Transportation expenses during March increased

\$1,381,020 as compared with March of last year, but there were declines in the cost of maintenance of way, structures and equipment, so that the increase in gross operating expenses was not so great as that.

The statement for the first three months of 1917 shows operating revenue \$28,130,774, increase as compared with the corresponding period of last year \$2,091,599; total operating expenses \$22,191,659, increase \$2,325,643; net operating revenue \$5,939,115, decrease \$234,044.

South Florida Interurban Railway.

The South Florida Interurban Railway Co. says that the first section of its line will be completed between Melbourne, Haines City and Sanford, Fla., about 130 miles, by the first of next year. All rights of way have been practically secured and franchises have been granted by the cities through which the track will run. Engineers have been in the field for the last two weeks, and the setting of grade stakes will be completed by May 1. Capital is being secured in the North, and construction will proceed without halt until the section is finished and in operation.

This company, organized under the laws of Arizona, has, it is further stated, filed its charter at Tallahassee, Fla. The entire plan is to build an interurban railway from Melbourne, on the east coast of the State, to Haines City, St. Cloud, Orlando and Sanford, and thence through Marion, Lake and Citrus counties on the west coast and southward, entering Tampa from the north, and finally completing a loop to Haines City, 275 or 300 miles altogether. The route lies through one of the most densely populated and best fruit, garden truck and farming sections in Florida. It will be a cross-State line, and will handle both freight and passenger traffic from Tampa to Melbourne, and vice versa, but freight will be a specialty.

The officers are Charles D. Brenner, president; John H. Bowlin, vice-president; Frederic B. Stanley, treasurer, and William Hall, secretary. The headquarters and executive offices occupy the upper floor of the First National Bank Building at St. Cloud, Fla.

Lumber Manufacturers Badly Short of Cars.

After a report submitted to it concerning the recent bearing at Washington on the 15 per cent. advance in freight rates requested by the railroads, the Southern Pine Association, New Orleans, upon the recommendation of A. G. T. Moore, its assistant secretary, who made the report, adopted resolutions urging that the application of existing car service rules be waived wherever Government shipments were involved, and also that, in anticipation of the additional movement of yellow pine lumber to meet the requirements of the Government, the railroads be urged to increase the car supply to Southern yellow pine territory. It was decided to forward copies of the resolutions to the United States Shipping Board, the Secretary of War, the Secretary of the Navy, the Interstate Commerce Commission and the American Railway Association.

It was also suggested by Mr. Moore, while in Washington, to the Interstate Commerce Commission that the advance in freight rates be postponed in its effect for four months to allow time for the shipment of some 40,000 cars of lumber for which orders had been accepted, but which had not been shipped because of the scarcity of cars. The pooling of freight equipment and its distribution under the direction of the Interstate Commerce Commission or some other body vested with complete authority is also advocated as a permanent solution for the car-service problem.

New Equipment.

United Railways & Electric Co. of Baltimore will soon place an order for 80 semi-convertible double-truck pay-as-you-enter cars of greater capacity than the large cars now in use on its lines.

Kanawha, Glen Jean & Eastern Railway has ordered 1 Mikado type locomotive from the Baldwin Locomotive Works, Philadelphia.

Chicago, Burlington & Quincy Railroad is reported about to buy 65 locomotives.

Benwood & Wheeling Connecting Railroad will purchase 40 hopper cars and 14 gondola cars.

Norfolk Southern Railroad stockholders have voted

to issue \$1,000,000 of 6 per cent. three-year notes, of which \$174,000 will be used for refunding and \$826,000 for new equipment. Orders have already been placed with the General Equipment Co. of New York for 500 box cars and 250 gondola cars, which are now being built.

Orleans-Kenner Interurban Railway, New Orleans, will purchase 7 trailer cars.

The Southern Railway system announces the following appointments: E. Miller, assistant comptroller at Cincinnati; R. F. Heath, auditor, Cincinnati; J. S. Powell, assistant auditor, New Orleans; Chas. Patton and Thomas Bird, respectively, assistant treasurer and assistant cashier at Cincinnati, all excepting Mr. Miller being for the New Orleans & Northeastern Railroad of the system.

New Southern Railroad Enterprises.

New railroad enterprises recently organized include these in the South:

Standard Utilities Construction Co., capital stock \$100,000, all subscribed and \$10,000 paid in, chartered in Texas to build an electric railway from Dallas to Denton and Slidell, Tex., 58 miles, with headquarters at Denton. Incorporators are M. W. Deavenport and H. Rowe, both of Denton; Ira E. Cornelius of Muskogee, Okla., and O. F. Hopkins of Tulsa, Okla.

Elk Fork Railway Co., capital stock \$25,000 and limit of indebtedness \$1,000,000, incorporated in Kentucky to build a railroad about 40 miles long through Morgan and Elliott counties to reach coal and timber territory that is now undeveloped. T. C. Fuller is said to be promoting the plan, and general offices will be at Lexington, Ky. Incorporators are W. S. Whiting of Elizabethtown, Tenn.; H. M. Collins of Frankfort, Ky.; Wm. R. Snyder, Wm. H. Porter and J. F. Caywood, all of Lexington; C. W. Moorman and George McLeod, both of Versailles, Ky.

Improved Freight Service.

Movement of freight between Florida and Cuba and Atlanta, Birmingham, Chattanooga, Cincinnati, Louisville, St. Louis and the West over the Southern Railway system in connection with the Georgia Southern & Florida Railway will be greatly facilitated by the establishment of joint yard operation at Macon, where separate yards have been maintained heretofore.

All freight trains of both lines will now use the Southern's new classification yard at South Macon, and from two to three hours will be saved on through trains due to the elimination of double inspection and the backhaul of over a mile between yards, formerly performed by switch engines.

Freight to and from Florida is handled through the Cincinnati and Louisville gateways by the Southern Railway system's through trains via Chattanooga, and through the St. Louis gateway by it and the Georgia Southern & Florida south of Birmingham, and the Mobile & Ohio Railroad between Birmingham and St. Louis.

Proposed Extension of Texas State Railroad.

Concerning the proposed extension of the Texas State Railroad, which runs from Rusk to Palestine, Tex., 32½ miles, J. B. Welborn, manager at Palestine, says that the bill recently passed by the Texas Legislature provides for either extension, sale or lease of the property, which is under the control of the Board of Prison Commissioners and the Governor, provided that they deem it wise to act accordingly, the extension to be to either Dallas or Waco, Tex., or Shreveport or Alexandria, La., or to any two of these points. Sale or lease may be made to parties who would bind themselves to fulfil the extension plans, or the construction may be done by the State itself with the proceeds of a sale of \$1,000,000 of 6 per cent. bonds, which would be secured by the existing railroad property, including rolling stock, and all extensions which may be made.

Mr. Welborn also says that the work will no doubt begin some time during the fall of this year; that the cities mentioned are all very much interested in the project, and that there will be keen rivalry between them to secure the extension. He adds that the road has been for a number of months gradually increasing its revenue.

ness, and for the first time since it was built has paid its own way excepting for short intervals.

An extension from Palestine, the western terminus of the road, to Dallas would be about 100 miles long, or from the same point to Waco would be about 90 miles. From Rusk, the eastern terminus, to Shreveport would be about 90 miles, and from the same place to Alexandria would be 145 or 150 miles.

Substantial Growth of Seaboard Air Line.

The statement of the Seaboard Air Line for the year ended December 31, 1916, shows gross earnings \$26,184,487, increase as compared with the calendar year 1915, \$3,543,611, or 15.6 per cent.; operating expenses \$17,531,906, increase \$2,037,311; net operating revenue from railway \$8,652,581, increase \$1,506,300, or 21 per cent. as compared with the preceding fiscal year of the company, which ended June 30. After interest, rentals, etc., excepting interest on adjustment bonds, the balance left was \$2,862,011, increase \$1,057,209.

It is further stated that from 1909 to 1916 the system increased its ton mileage 55 per cent., while its freight train mileage decreased 3 per cent. The increase of traffic density was 34 per cent., and the average freight-train load rose from 206 tons to 335 tons, while freight revenue per train mile advanced in the same period from \$2.30 to \$3.36. Revenue from passengers increased 44 per cent.

Birmingham Tidewater Lines Transferred.

A report from Birmingham, Ala., says that official notice has been given by the reorganization committee of the Birmingham, Ensley & Bessemer Railroad Co., or Tidewater Line, that the property has been transferred to the Birmingham-Tidewater Company under an order of sale, and that the stock of the latter has been transferred to the Birmingham Railway, Light & Power Co., which is a subsidiary of the American Cities Co., that is, in turn, controlled by the United Gas & Electric Corporation of Connecticut. It is further stated that the stock transfer was made because of the guaranty of the bonds of the Birmingham-Tidewater Railway by the Birmingham Railway, Light & Power Co., and that the holders of certificates of deposit for the old bonds will receive in exchange for them new 5 per cent. 35-year bonds of the Birmingham-Tidewater railway in accordance with the terms of the reorganization plan as announced.

Trunk Lines to Reach Metropolis Bridge.

Construction of a railroad from Carmi to Metropolis, Ill., 96 miles, will, according to a report from Paducah, Ky., be built, work starting this summer, for the joint use of the Baltimore & Ohio, New York Central, Pennsylvania and Louisville & Nashville Railroad systems to reach the new bridge over the Ohio River, which is being built by the Chicago, Burlington & Quincy Railroad and the Nashville, Chattanooga & St. Louis Railway, the latter a subsidiary of the Louisville & Nashville. From the bridge a 12-mile line, known as the Paducah & Illinois Railroad, makes connection with Paducah and the South.

Changes in the "Orient" Staff.

W. T. Kemper has been elected president of the Kansas City, Mexico & Orient Railway of Texas, with headquarters at San Angelo, Tex., to succeed E. Dickinson, who remains with the company as chairman of the board of directors and also as president of the northern division of the property, with headquarters at Kansas City, Mo. Clarence Histed of Kansas City was elected vice-chairman of the directors. J. Z. Miller of the same city was also elected to be a director.

Receiver for Texas Railroad.

W. W. King of San Antonio, according to a report from Floresville, Tex., has been appointed receiver for the Artesian Belt Railroad, 42 miles long from Kirk to Christine and Macdona, Tex., as the result of a petition

filed with the court at Jourdanton by the Commonwealth Bank & Trust Co. of San Antonio on notes amounting to more than \$125,000. L. N. Walthall is president; J. H. Savage, vice-president; V. H. Howard, general manager, and W. B. Hamilton, treasurer, all of San Antonio, Tex.

Improving Its Roadway.

Small timber trestles will be replaced by fills over cast-iron pipe at 139 points on the Georgia Southern & Florida Railway, which is also strengthening its line by laying 1300 tons of new 85-pound rails between Macon and Cordele. Other improvements to be made include the construction of small freight and passenger stations at Cycloneta, Mayday, Colon and Moniac, Ga., besides smaller structures for maintenance of way work, etc.

Electric Motor Car to Be Operated.

To meet a demand for additional passenger service, it is announced at Spartanburg, S. C., that the Carolina, Clinchfield & Ohio Railway will operate an electric motor car between that city and Bostie, N. C., 31 miles, making one trip each way daily. It is said that the new service will begin about May 8.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Bonds Voted:

Asheville, N. C.—City will issue \$35,000 bonds for street improvements.
Boerne, Tex.—Kendall county vote \$40,000 bonds for constructing roads.
Danville, Mo.—Montgomery county voted \$35,000 bonds to construct 23 miles of road.
Farmville, Va.—City voted \$50,000 bonds for streets, etc.
Gainesville, Fla.—Alachua county voted \$500,000 bonds for road construction, etc.
Groesbeck, Tex.—Limestone county voted \$100,000 bonds to construct roads.
Lake Providence, La.—East Carroll parish voted \$100,000 bonds for road construction.
Purcell, Okla.—McClain county voted \$20,000 road and bridge bonds.
Tampa, Fla.—Hillsborough county voted \$100,000 bonds for road construction.

Bonds to Be Voted.

Carrollton, Ala.—Pickens county votes May 8 on \$130,000 bonds for road construction.
Jourdanton, Tex.—Atasca county votes May 12 on \$30,000 bonds to improve roads.
West Point, Ga.—City votes May 29 on \$20,000 to grade, drain, pave or macadamize streets.

Contracts Awarded.

Birmingham, Ala.—City awarded \$27,752.90 paving contract.
Denton, Md.—Caroline county awarded \$16,000 contract to construct 1½ miles of stone macadam road.
Fayetteville, W. Va.—Fayette county awarded contract for 14.5 miles of bituminous macadam road; estimated cost \$175,000.
Greenville, S. C.—City awarded \$105,482 paving contract.
Greenwood, Miss.—Le Flore county awarded \$345,747 contracts for road construction.
Independence, Mo.—Jackson county awarded \$98,260.50 contract for road construction.
Pineville, Ky.—Bell county awarded \$102,000 contract for macadam road construction.

Contracts to Be Awarded.

Abilene, Tex.—Taylor county will repair roads at cost of \$30,000.
Bartow, Fla.—Polk county will construct 302,000 square yards asphalt road paving, etc.

Bay Minette, Ala.—Baldwin county will grade and construct 18 miles of road.

Bristow, Okla.—City will construct 15 blocks pavement.

Chestertown, Md.—Kent county will construct about six miles of State-aid highways.

Clarksdale, Miss.—City will construct 30,000 square yards asphaltic concrete pavement, 7000 linear feet curb and gutter, etc.

De Ridder, La.—Beauregard parish opens bids May 21 for constructing 138 miles of highway; \$550,000 available.

De Kalb, Miss.—Kemper county will construct 20 miles of macadam and sand-clay road.

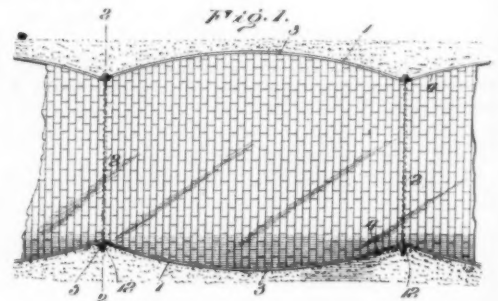
Jonesboro, Ark.—City will pave 15 miles of streets; cost \$360,000.

Port Gibson, Miss.—Claiborne county will gravel roads and construct bridges; \$40,000 available.

New Type of Brick Roadway.

A new design for the construction of brick roads has been developed and patented by R. P. Scott of the Sinclair-Scott Company, manufacturer of canning-house machinery, Baltimore, Md. The inventor states that this new method is based upon the engineering principles as applied to bridges and all triangulated structures.

As shown in the illustration, a curved side supported by an iron rod, together with a full arched surface, constitute the features of design and construction. The side rods are tied together every 20 feet to prevent spreading as a whole, so the arch cannot flatten any more than any other arch held up by rigid side or end supports.



Mr. Scott contends that his invention is the only fundamental advance in road building since the time of McAdam, and claims that it will do away with foundation and curbing, which are two of the expensive features of present methods of construction. A short stretch of this roadway has been constructed by the inventor at his factory at Wells and Patapsco streets, Baltimore, Md., and during the three years it has been down has been subjected to traffic of heavy vehicles, sometimes loaded to three or four tons, and is claimed by the inventor not to have shown any signs of breaking.

Modern Highways of Grayson County, Texas.

An interesting folder has been compiled and is being issued by the Chamber of Commerce of Denison, Tex., illustrating the hard-surfaced highways that have recently been completed in Grayson county. This work involves a total extent of 360 miles, and that built outside of towns 237 miles. The types of construction used in this work were gravel, macadam and concrete, and the total cost was about \$1,750,000. This system of roadways, which was completed last month, was constructed under the supervision of Julian C. Feild & Co., county engineers, Denison, Tex.

Macadam Roads to Cost \$102,000.

A contract amounting to \$102,000 for road construction in Bell county, Kentucky, has been awarded to J. A. Kries of Knoxville, Tenn., by the Bell county commissioners of Pineville. This contract calls for construction of macadam roads in the county (except the Boone-Dixie Highway) from the Knox county line to Mid-dlesboro.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post-office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Ala., Bay Minette.—Baldwin County will construct bridges and causeways on road from Robertdale to Nunee Ferry; bids until June 6; J. M. Garrett, Engr.; L. Glendinning, Road Commr. Third Dist. (See Machinery Wanted—Bridge Construction.)

Ala., Cordova.—St. Louis & San Francisco R. R., F. G. Joach, Chief Engr., St. Louis, will build bridge across Warrior River; 183 ft. vertical lift span and towers with 50 and 60-ft. deck plate girders; total length 298 ft.; steel work costing \$125,000; 525 tons steel required, including machinery to operate lift span; let contract to Virginia Bridge & Iron Co., Roanoke, Va. (Lately noted.)

D. C., Washington.—Government will construct concrete piers and abutments for Key Bridge across Potomac River; bids opened at U. S. Engr. Office, 305 Southern Bldg., April 30.

D. C., Washington.—Comms. Dist. of Columbia, 509 Dist. Bldg., will construct 7-span steel plate girder highway bridge, abutments, piers and approaches on Benning Rd., crossing tracks of Philadelphia, Baltimore & Washington R. R.; bids until May 24. (See Machinery Wanted—Bridge Construction.)

Fla., Bartow.—Polk County Comms., J. A. Johnson, Clerk, ask bids until May 26 on 8 reinforced concrete bridges, each of about 30-ft. span, in connection with road construction, Special Road and Bridge Dist. No. 1, Winter Haven Dist. (See Road and Bridge Construction.)

Fla., Gainesville.—Alachua County, Dist. No. 5, W. B. Taylor, Bond Trustee, voted \$500,000 bonds for road and bridge construction.

Md., Allegany County.—Maryland State Roads Com., 601 Garrett Bldg., Baltimore, Md., asks bids until May 15 for 116-ft. reinforced-concrete arch across 15-Mile Creek. (See Machinery Wanted—Road and Bridge Construction.)

Md., Chestertown.—Kent County will construct Crumpton bridge across Chester River, connecting Kent and Queen Anne's counties, 200 ft. long; County Comms. receive bids until May 15. (See Road and Street Work; see Machinery Wanted—Road and Bridge Construction.)

Miss., Port Gibson.—Claiborne County Supvrs., L. B. Allen, Prest., will construct iron and concrete bridges; open bids May 8. (See Machinery Wanted—Road and Bridge Construction.)

Mo., Joplin.—City defeated \$40,000 bonds to construct E. Seventh St. viaduct. J. B. Hodgdon, Comms. (Lately noted.)

Mo., Kansas City.—Jackson County Comms., Independence, let contract Nicholas Mills of Kansas City at \$37,000 to construct bridge across Blue River on Beardsley Road.

N. C., Hickory.—Catawba County Comms., Newton, N. C., and Alexander County Commissioners, Taylorsville, N. C., will construct concrete and steel bridge across Catawba River at Moore's Ferry, between Hickory and Lenoir.

N. C., Newton.—Catawba and Caldwell Counties let contract C. W. Reuquarth Co. of Charlotte at \$38,000 to rebuild Horsford bridge over Catawba River between 2 counties; concrete construction. (Lately noted inviting bids.)

N. C., Statesville.—Iredell County Commissioners, J. E. Boyd, Chrmn., and Catawba County Comms., Osborne Brown, Chrmn., ask bids, to be received at Statesville until May 9, to construct Island Ford bridge across Catawba River, 12 mi. from Statesville. (See Machinery Wanted—Bridge Construction.)

Okla., Ada.—Pontotoc County Comms., Ada, and Seminole County Comms., Wewoka, Okla., will construct bridge across South Canadian River at Rock Crossing; distance between 2 bluffs 1200 ft.; no approaches required; State to pay one-half of cost; J. A. Jackson, Pontotoc County Surveyor, Ada; Max Cunningham, State Highway Engr., Oklahoma City.

Va., Lynnhaven.—Princess Anne County will construct 2 bridges; superstructures of wood treated with creosote throughout, except decking; sub-structures of treated pile bents, one 105 ft. long over Thalia Arm of Lynnhaven River, and one 135 ft. long over Lynnhaven River, near Lynnhaven; bids at County Clerk's office, Princess Anne, until May 19; G. P. Coleman, State Highway Commr., Richmond. (See Machinery Wanted—Bridge Construction.)

CANNING AND PACKING PLANTS

Ala., Centerville.—Centerville Canning Co. inctpd.; H. L. Olensky, Prest.; C. H. Cleveland, V.-P.; John P. Kennedy, Secy.-Treas.

Ala., Troy.—W. L. Thompson will install cannery.

Fla., Palmetto.—J. E. Peddrick let contract to Stultz & McIntosh, Palmetto, to erect 40x90-ft. packing-house; cost \$2100; plans by Fred Kermode; wood-frame structure, with corrugated iron sides and roofing.

Ga., Athens.—Athens Canning & Warehouse Co., capital \$10,000, will organize; A. M. Soule, Chrmn., and J. Warren Smith, Treas., of incorporating committee; establish fruit and vegetable cannery and potato kiln-drying warehouse.

Ga., Thomson.—R. L. Howell will establish cannery; daily capacity 500 cans.

Ky., Louisville.—Goodwin Preserving Co. increased capital from \$100,000 to \$150,000.

Ky., Owensboro.—Dyer-Guenther Canning Co. organized. W. H. Dyer, Prest., Evansville, Ind.; J. E. Guenther, V.-P. and Mgr.; E. D. Kerr, Secy.; open bids July 1 to erect 48x100-ft. 1-story building; install canning and pulping machinery; products, canned tomatoes, string beans and pumpkins.

Mo., Columbia.—Hetzler Packing Co., capital \$150,000, inctpd. by Wm. J., John P. and A. E. Hetzler.

N. C., Shelby.—R. E. Campbell, W. J. Aray and Paul Webb are interested in establishment of cannery.

Tenn., Memphis.—D. Canale & Co. will build cannery; purchased machinery costing \$25,000.

Tex., Aubrey.—R. L. McReynolds is reported to install cannery with daily capacity 3000 to 5000 cans.

Tex., San Antonio.—San Antonio Packing Co. increased capital from \$40,000 to \$60,000.

Tex., Waco.—Waco Pickle Co., capital \$6500, inctpd. by A. Tobias, J. W. Fass, A. H. Gans and others.

Va., Petersburg.—Williams Food Products Co. (T. O. Williams) will install machinery to can vegetables; capacity 15,000 to 20,000 cans tomatoes, etc., per season, including catsup, chile sauce; has building. (See Machinery Wanted—Canning Machinery.)

Va., Richmond.—Klugan & Co., will erect brick and frame addition to meat-packing plant; cost \$6500.

Va., Staunton.—John Musselman and S. Z. Musselman of Leola, Pa., are reported as contemplating establishment of apple cannery.

CLAYWORKING PLANTS

Ala., Irondale.—Fire-bricks.—Siliconite Refractories Co., capital \$30,000, organized with Robt. R. Zell, Prest., Birmingham; J. H. Waters, V.-P., Anniston; J. E. Cosgrove, Secy.-Treas., Augusta, Ga.; build \$10,000 plant with daily capacity 20,000 fire-bricks.

Ala., Mobile.—Tile.—Southern Tile Co., capital \$5000, inctpd. with W. G. Smith, Prest., Mobile; Geo. Duross, V.-P. and Treas., New Orleans; J. W. Emrich, Secy., Mobile.

Ala., Mobile.—Tile.—Southern Tile Co., capital \$5000, inctpd. by W. G. Smith and others.

La., Alexandria.—Bricks.—Wilfred G. Gehr is interested in proposed brick manufacturing plant. (See Machinery Wanted—Brick Machinery.)

COAL MINES AND COKE OVENS

Ala., Coal City.—Bird Coal & Iron Co., E. J. Bird, 3d, Gen. Supt., Talladega, Ala., acquired Seaboard Coal & Coke Co. and other properties. (See Iron and Steel Plants.—Ala., Talladega.)

Ala., Townley.—Natural Bridge Fuel Co., capital \$5000, inctpd. by T. S. Hendon and others.

Kentucky.—Pittsburgh-Kentucky Coal Co., capital \$600,000, inctpd. by Frank Wilbert, Jr., S. E. Shearon and J. S. Rosenbaum, all of Pittsburgh, Pa.

Ky., Baxter.—Gatum Coal Co., capital \$1000, inctpd. by Lloyd Nolan, H. L. Goldiron and G. W. Creech.

Ky., Hazard.—Midland Mining Co., capital \$100,000, inctpd. by Chas. Buschoff, W. E. Davis and H. E. Bullock.

Ky., Hueysville.—Salt Lick Coal Co., Prestonsburg, Ky., organized; W. S. Wells, Prest.; I. T. Craft, V.-P. and Mgr.; G. B. Archer, Secy.-Treas.; develop 100 acres; daily capacity, 300 tons; no machinery; Baldwin & Houtz, Engrs., Pikeville, Ky. (Lately noted inctpd., capital \$15,000. (See Machinery Wanted—Rills, etc.)

Ky., Iee.—Cassell-Draper-West Coal Co., organized; Harry W. Draper, Prest.; Ben. L. Draper, V.-P.; W. H. West, Secy.-Treas.; Geo. B. Cassell, Mgr.; develop 1200 acres; estimated daily capacity 500 to 600 tons; now receiving machinery bids; Wm. Pursell, full, Constr. Engr., Hazard, Ky. (Lately noted inctpd., capital \$24,000.)

Ky., Pike County.—Morning Star Coal & Coke Co., capital \$25,000, inctpd. by Alex. Bishop, A. C. Pinson, R. R. Bias and others, all of Williamson, W. Va.

Ky., Pinson Fork.—Marietta Coal Co., capital \$25,000, inctpd. by W. H. Walters, P. L. Baird and J. L. Clark.

Ky., Thornton.—E. V. Cross and others of Jellico, Tenn., leased coal properties in Thornton and Sergeant sections.

Ky., Whitesburg.—Blue Grass Coal Co. will develop additional mines and double output.

Ky., Yerkes.—Conda Coal Corp., capital \$2000, inctpd. by John McIntosh, Ida McIntosh and J. A. Collins.

Mo., Arcadia.—Rajo Coal Co., capital \$50,000, inctpd. by M. S. Walker, B. W. Cameron and O. S. Raymond.

Tenn., Chattanooga.—Didenburg Coal & Coke Co., 413 Temple Court Bldg., organized; F. F. Herndon, Prest.; J. W. Hawley, V.-P.; C. A. Briggs, Secy.-Treas.; develop 1200 acres; capacity not decided; considering letting contracts for coal mining. Lately noted inctpd., capital \$100,000. (See Machinery Wanted—Coal Mining.)

Tenn., Dayton.—Evensville Coal & Coke Co. will operate mines at Evensville; lately noted inctpd. (See Tenn., Evensville.)

Tenn., Evensville.—Evensville Coal & Coke Co. inctpd.; capital \$10,000; develop 2000 acres; stockholders include J. T. Darwin of Evensville, E. B. Thommasson, E. M. Thommasson, S. L. Darwin and Q. P. Darwin, each of Chattanooga. (Lately noted under Tenn., Dayton.)

Tenn., Morley.—Meadow Branch Coal Co., Williamsburg, Ky., inctpd.; capital \$5000; E. E. Pritchard, Prest.; R. L. Pope, Secy.-Treas.; G. G. Croley, Mgr.; develop 300 acres. (Lately noted under Williamsburg.)

Va., Honaker.—Buchanan Coal Co., capital \$50,000, inctpd.; R. E. Carter, Prest.; G. R. Carter, Secy.; both of Bluefield, W. Va.

Va., Pennington Gap.—Marsee Coal Co., capital \$15,000, inctpd.; John H. Slomp, Prest., Middleboro, Ky.; Pat H. Marsee, Secy., Pennington Gap.

Va., Roanoke.—Burneagle Coal & Coke Corp., 507 Strickland Bldg., chartered; capital \$1,000,000; Jas. E. Walker, Prest.; C. S. McNulty, V.-P.; J. H. Matthews, Secy.-Treas.; develop 323 acres; daily capacity 1000 tons; number of coke ovens not decided; by-product; install electrically-operated machinery. (See Machinery Wanted—Mining Machinery.)

Va., St. Paul.—Portland Coal Co., capital \$50,000, inctpd.; John M. Thomas, Prest.; R. M. Jones, Jr., Secy.; both of Milwaukee, Wis.

W. Va., Bluefield.—Eclipse Pocahontas Coal Co., capital \$25,000, inctpd. by G. J. Cooper, R. Quisenberry, A. Painter and others.

W. Va., Braxton.—Pittsburg Splint Coal Co., Box 129, Sutton, W. Va., organized; C. W. Fleisher, Gassaway, W. Va., Prest.; A. J. Salzer, V.-P. and Mgr.; A. L. Morrison, Secy.-Treas.; develop 50 acres; daily capacity 250 tons; purchased machinery. (Lately noted inctpd., capital \$25,000.)

W. Va., Charleston.—Standard By-Products Coal Co., capital \$60,000, inctpd. by Alfred H. Lea, Jas. L. Long, Homer Wiseman and others.

W. Va., Clarksburg.—Clarksburg Industrial Coal Co., capital \$10,000, inctpd. by Dudley H. Pritt, Benj. R. Pritt, Thos. P. Keenan and others.

W. Va., Davis.—Blackwater Coal Co., Thomas, W. Va., organized; A. L. Helmick, Prest.; R. D. Helronimus, V.-P.; H. F. E. Hinebaugh, Secy.-Treas.; C. N. McIntire,

Mgr.; develop 25 acres; contemplates increasing daily capacity of 50 tons to 100 or more tons; no machinery. (Lately noted inceptd., capital \$25,000.)

W. Va., Elk Garden.—Mapleville Coal Co. organized; J. R. Norman, Pres.; W. W. Harris, V.-P.; M. E. Harris, Secy.; O. D. Harris, Mgr.; develop 214 acres; present capacity 15 tons daily; date for opening machinery bids not set. (Lately noted inceptd., capital \$200,000.)

W. Va., Fairmont.—E. L. & W. Coal Co., capital \$25,000, inceptd. by E. N. Eddy, W. A. Lawler, Theo. Workman and others.

W. Va., Huntington.—Huntington By-Products Coal Co., capital \$50,000, inceptd. by C. M. Werum, J. B. Marshall, Theodore Kirkland and others.

W. Va., Huntington.—Western Pocahontas Fuel Co., capital \$1,000,000, inceptd. by R. M. Baker, J. W. Hagen, Jr., Sam Biern and others.

W. Va., Morgantown.—Rosedale Coal Co., Box 836, inceptd., capital \$50,000; John L. Hatfield, Pres.; Morton Van Voorhis, V.-P.; W. S. John, Secy.; Aaron J. Garlow, Treas.; C. I. Lantz, Mgr.; develop 400 acres; daily capacity 800 tons; install mining machinery and tippie equipment.

W. Va., Piedmont.—Toofa Bros. Coal Co., capital \$20,000, inceptd. by Arthur P. Toofa, M. A. Patrick, T. D. Campbell and Estell Hooga.

W. Va., Williamson.—Wigart Mining Co., capital \$200,000, inceptd. by C. M. Gates, G. R. C. Wiles, B. Randolph Bias and others.

CONCRETE AND CEMENT PLANTS

Mo., Chillicothe.—Burial Vaults.—Egyptian Burial Vault Co., capital \$10,000, inceptd. by C. E. Campbell, Wm. L. Cox and E. H. Brackey; manufacture reinforced-concrete burial vaults.

Mo., Kansas City.—Columns, Urns, etc.—Trusswall Mfg. Co., 23d St. and Flora Ave., contemplates enlargement of plant.

W. Va., Charleston.—Cement Blocks.—Houghton Cement Block Co., capital \$10,000, inceptd.; M. J. Houghton, Pres.-Mgr.; C. E. Given, V.-P.; L. Given, Secy.; has building; install 2 tampers and mixer, cost \$2500; daily capacity 1000 8x8x16-in. cement blocks.

COTTON COMPRESSES AND GINS

Ark., Conway.—Conway Cotton Oil & Gin Co. will build gin; six 80-saw gin stands and double revolving press; daily capacity 100 bales.

Okla., Quinton.—Quinton Gin Co. organized; J. T. Courts, Pres.; J. C. Shelton, V.-P.; C. M. Brown, Secy.-Mgr.; erect 20x60-ft., 30x30-ft. and two 20x40-ft. galvanized metal buildings; install complete cotton gin equipment, cost \$10,000; lint cotton; daily capacity 30 bales.

DRAINAGE SYSTEMS

Ark., Jonesboro.—Comms. Craighead County Drainage Dist. No. 14 will construct 10 mi. of drainage ditches to consist of cleaning and enlarging 1 main ditch, 54,000 cu. yds., and constructing 2 laterals, 146,000 cu. yds.; bids until May 3; Cobb & Lee, Engrs., Jonesboro. (See Machinery Wanted—Drainage System.)

Fla., Tallahassee.—Everglades Drainage Dist. Comms. have \$500,000 available to proceed with drainage of Everglades; directed Chief Drainage Engr. to prepare specifications and notice for bids for construction of Dania Cut, removal of obstructions from North New River Canal and Miami Canal, and report upon other necessary work; sale of bonds amounts to \$3,000,000, to be paid in installments as needed.

ELECTRIC PLANTS

Ky., Adairville.—Adairville Lighting Co., capital \$12,000, inceptd. by R. B. Brian, J. E. Russell and R. W. Russell.

Mo., Boonville.—Kemper Military School, T. A. Johnston, Supt., let contract to W. J. Cochran, Boonville, to erect 44x64-ft. brick and concrete power-house; 600 ft. transmission, cost \$22,000. (Lately noted to make improvements.)

Mo., Smithville.—Electric Light Plant, Harry Gordon, Mgr., will erect 60x70-ft. brick building; repair damaged machinery; ordered new switchboard; no further equipment needed. (Lately noted to rebuild plant burned in March, loss \$7500.)

Okla., Shawnee.—Municipal Power & Light Co., capital \$3000, inceptd. by Edward Howell of Shawnee, Sinclair Mainland of Oshkosh, Wis., and Ward S. Arnold of Chicago.

S. C., Charleston.—Charleston Consolidated Co. will erect transformer-house; cost \$5000.

Tex., Odessa.—Odessa Light & Power Co., capital \$4000, inceptd. by R. N. Henderson, W. F. Bates and W. H. Rhodes.

Va., Bowling Green.—Bowling Green Light & Power Co., capital \$10,000, inceptd.; L. E. Martin, Pres.; B. F. Borkey, Secy.; erect 20x40-ft. frame building; install oil engine; B. F. Borkey, Contr. and Engr.; plant to cost \$5000; 3-mi. transmission system, cost \$5000; connect Bowling Green and Milford, Va.

Va., Farmville.—City, Paul T. Boggs, Clerk, votes June 14 on \$50,000 bonds for electric lights, water-works and street improvements; develop 500 K. W.; Wm. M. Platt, Engr., Durham, N. C. (Noted in March for earlier date.)

Va., Franklin.—City, J. B. Gay, Mayor, will expend \$10,000 to improve electric plant; change from D. C. to A. C.

W. Va., Glen Lyn.—Appalachian Power Co., Bluefield, W. Va., will build \$1,000,000 steam-driven electric generating station on New River, between Virginian and Norfolk & Western railways; equipment to include 18,750 K. W. turbine, three 1200 H. P. boilers, etc.; may furnish electricity for proposed Virginian Ry. electrification at Clarks Gap and for proposed extension of Norfolk & Western Ry. electrification east of Bluefield; Appalachian corporation wires Manufacturers Record: Have not decided upon character of building construction, size, location or engineer for steam-driven electric plant; Herbert Markle, Gen. Mgr., writes to Manufacturers Record: Have to build steam plant; bought 18,750 K. W. turbine and boilers; did this to insure delivery when needed; not yet decided on other details; may not decide for some months.

will erect mill-construction building, 30x40x36 ft.; cost \$1500; erection by the company's force; will install complete roller flour mill, also corn and feed mill, cost about \$5000; daily capacity 40 bbls. flour, 100 bu. meal, 4000 lbs. feedstuff; also increase lumber plant. (See Machinery Wanted—Roofing; Lime and Cement; Molder.)

FOUNDRY AND MACHINE PLANTS

Ala., Birmingham.—Machinery.—Gill Machine Co., capital \$15,000, inceptd.; J. J. Kyser, Pres.; J. M. Kyser, V.-P.; O. H. Bowen, Secy.-Treas.

Ky., Louisville.—Machinery.—Kentucky Machine Co. inceptd. by Curtis Gennett, Frank Howe and Wm. Bishop.

Mo., Kansas City.—Machinery.—American Machinery Mfg. Co., capital \$50,000, inceptd. by John T. Fitzpatrick, Peter Martin and G. S. McLanahan.

Mo., Springfield.—Railway Supplies.—Southwestern Railway Steel & Foundry Co., capital \$150,000, inceptd. by J. P. Koff, J. W. Sherman and K. W. Roberts.

Mo., St. Louis.—Boring Machines.—Multiple Boring Machine Co., capital \$25,000, inceptd. by A. F. Townsend, J. J. Walsh and A. L. Ringwald.

N. C., Durham.—Textile Machinery.—Hester-Cole Mfg. Co., capital \$500,000, inceptd. by R. O. Everett, L. G. Cole and W. D. Hester.

Tenn., Chattanooga.—Boilers, etc.—Walsh & Weidner Co. will rebuild, on enlarged scale, main assembling shop, tower, blacksmith, erecting and machine shops reported burned at loss of \$200,000.

Tenn., Knoxville.—Heating and Ventilating Equipment.—Hart Mfg. Co., Grand Rapids, Mich., is reported to establish plant.

THE OFFICIAL PROPOSAL ADVERTISEMENTS

Appear This Week On Pages 108 and 109

Notices of bond sales, construction and improvement contracts to be let, equipment and supplies to be purchased, franchises offered, etc., inserted in this department bring bids from the most important bond buyers, investors, financial institutions, contractors, engineers, architects, manufacturers, and supply houses throughout the country.

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Send for booklet of testimonial letters from public officials who have used the PROPOSAL department of the Manufacturers Record, for bond sales, construction work, etc.

FERTILIZER FACTORIES

Fla., Tampa.—Wilson & Toomer Fertilizer Co., Jacksonville, Fla., is reported as having plans and specifications for building \$250,000 factory. (Previously noted to build plant.)

Tenn., Clarksville.—Tennessee Product Co., capital \$25,000, inceptd. by John W. Rudolph, O. H. Smith, John Y. Cunningham and others.

Tex., Houston.—Texas Chemical Co. let contract Horton & Horton of Houston at \$51,000 to erect first unit of fertilizer factory on Houston Ship channel; concrete, brick and steel; purchased machinery and equipment; will manufacture fertilizer and by-products, including glue, ammonia, acids, etc.; site comprises 15 acres with ample water frontage. (Lately noted.)

FLOUR, FEED AND MEAL MILLS

Ga., Chipley.—United Mfg. & Warehouse Co. will erect 26x46-ft. 3-story addition to present plant and install 50-bbl. flour mill; purchased machinery; construct building by day labor.

Ky., Faywood.—Faywood Milling Co., capital \$3000, inceptd. by J. Menette Wiglesworth, E. R. Hoover and W. J. Spotagle.

Miss., Jackson.—R. H. Green let contract to W. J. McGee, Jackson, to erect 200x120-ft. building, to cost with equipments \$40,000 to \$50,000; brick, sprinkled throughout; plans by Kaucher & Hodges, Memphis, Tenn.; install feed-mixing machinery at first; later cold-storage equipment; machinery contracts practically placed; daily capacity 100 tons.

N. C., Walnut Grove.—Dan River Lumber Co., D. L. Donnell, Oak Ridge, N. C., Pres.,

Tex., Beaumont.—Steel Castings, etc.—Beaumont Iron Works Co., L. J. Black, Pres., let contract J. S. Meriweather at \$16,000 to erect concrete and steel foundry building; 73x150 ft.; purchased and will install additional machinery; total estimated cost of improvements \$65,000. (Lately noted to have increased capital from \$100,000 to \$225,000 and to make improvements, including erection of plant to manufacture steel castings.)

Tex., Dallas.—Boilers.—Wyatt Metal and Boiler Works, capital \$100,000, inceptd. by J. C. Duke, M. W. Townsend, W. O. Connor and others.

Va., Norfolk.—Electrical Equipment.—Acme Electric Works, capital \$50,000, inceptd.; W. E. Thomas, Pres.; J. H. Hare, Secy.

W. Va., Wolf Summit.—Wolf Summit Boiler Works will erect addition.

GAS AND OIL ENTERPRISES

Ark., Midland.—Katy Oil Co., capital \$75,000, inceptd. by H. F. Rogers, J. E. Finney and J. L. Finney.

Kentucky.—Gasoline.—Pennsylvania-Kentucky Oil & Gasoline Refining Corp., City Bank Bldg., Wheeling, W. Va., elected L. M. Stephens, Pres.; C. M. Watson, Treas.; Mr. Stephens advises Manufacturers Record: Have let contract to drill 20 wells in Kentucky; not ready to announce further plans. (Lately noted chartered, capital \$1,000,000.)

Ky., Lexington.—Bed Rock Oil Co., capital \$40,000, inceptd. by Sam. T. Randle of Paducah, Gregory C. Davison of New London, Conn., and Geo. E. Beers of Guilford, Conn.

Ky., Mortons Gap.—Moss Hill Oil & Gas Co., capital \$8000, inceptd. by L. E. Littlepage, W. W. Kingston, C. E. O'Bryan and others.

Ky., Winchester.—Beatty Oil & Gas Co., capital \$20,000, inceptd. by George B. Williams of Winchester, E. E. Edwards and W. P. Williams of Irvine, Ky.

La., Houma.—Oil Pipe Lines.—Terrebonne Oil & Gas Co., W. B. McCormick, Pres., is reported to lay pipe line from Terrebonne gas fields to New Orleans; also along Lafourche River to Morgan City and other points in South Louisiana; 16-in. pipe line to New Orleans; distance 45 mi.; cost \$18,000 per mi.; drill additional wells.

La., Welsh.—Welsh Oil Corp., capital \$35,000, inceptd.; E. H. Bolling, Pres.; W. E. Faught, V.-P.; A. T. Jones, Secy.-Treas.

Mo., Joplin.—Lead and Zinc.—Lucky Extension Mining Co., capital \$200,000, inceptd. by J. G. Marcum of Joplin, L. E. Moss and A. L. Harroun of Kansas City.

Mo., Kansas City.—Three B Oil, Gas & Mineral Co., capital \$20,000, inceptd. by Geo. C. Brill, A. F. Beard and Chas. D. Hayward.

Mo., Kansas City.—Six Eighties Oil Co., capital \$42,000, inceptd. by O. K. Herndon, W. E. Wilson and J. S. Summers.

Mo., Kansas City.—Federal Oil & Gas Co., capital \$50,000, inceptd. by Abe Reubenstein and others.

Mo., Kansas City.—Lenox Oil & Gas Co., capital \$30,000, inceptd. by R. C. Sethman and others.

Mo., Sheldon.—Sheldon Oil & Gas Co., inceptd. by C. V. Smith of Sheldon, John B. Paul, A. Mortensen, J. W. Farrar and others of Kansas City.

N. C., Kannapolis.—Gas Plant.—Concord & Kannapolis Gas Co., capital \$150,000, inceptd. by John S. Palmer of Concord, Walter Whitson and N. H. Gilbert of Philadelphia, Pa.

Okla., Altus.—Hess Oil & Gas Co., capital \$50,000, inceptd. by R. W. Blovin and others.

Okla., Cushing.—Hillman Drilling Co., capital \$10,000, inceptd. by C. F. Hillman, J. A. S. Wright and Chas. L. Clark.

Okla., Guthrie.—Oil Refinery.—Carter Oil Co. is reported to build oil refinery.

Okla., Kansas City.—Yesta Oil & Gas Co., capital \$30,000, inceptd. by C. H. Luce, A. C. Shelton and J. S. Summers.

Okla., Nowata.—Chiles Oil & Gas Co., capital \$10,000, inceptd. by E. A. Peck and others.

Okla., Okmulgee.—Monitor Oil & Gas Co., capital \$200,000, inceptd. by J. S. Moore of Okmulgee, Garland White and H. E. Blanchard of Oklahoma City.

Okla., Oklahoma City.—Refiners' Oil Marketing Co. inceptd. by F. L. Mulky and others.

Okla., Oklahoma City.—Kenova Oil, Gas & Mineral Co., capital \$25,000, inceptd. by J. F. Vansant, M. G. Rasbach and J. H. Montgomery.

Okla., Oklahoma City.—Oil Refinery.—Odessa Oil & Refining Co., capital \$100,000, inceptd. by J. D. Castleman and L. M. Ridelberger of Cushing and F. I. Bailey of Jennings.

Okla., Pinca City.—Westminster Oil & Gas Co., capital \$50,000, inceptd. by W. T. Oates and others.

Okla., Shawnee.—Willwell Oil & Gas Co., capital \$50,000, inceptd. by W. B. Wilson, Nettie C. Wells and A. Payne.

Okla., Shawnee.—Crane Oil & Gas Co., Room 6, State National Bank Bldg., organized; capital stock \$100,000; F. H. Stover, Wanette, Okla., Engr. (See Machinery Wanted—Piping.)

Okla., Tulsa.—Gasoline.—Silver Gasoline Co., capital \$50,000, inceptd. by Mark Finston, F. B. McDonald and Ray S. Fellows.

Okla., Tulsa.—Takanip Oil Co., capital \$16,000, inceptd. by E. H. Moss and others.

Okla., Tulsa.—Paragon Oil Co. organized; J. W. Gilliland, Pres., Tulsa; C. A. Uish, V.-P., Toledo, Ohio; acquired oil lands, leases and wells; daily production; 3000 bbls. oil; acquires several properties.

Okla., Tulsa.—McClain Oil Co., capital \$25,000, inceptd. by H. C. Burns and J. B. Bartlett of Tulsa, and E. Cuivers of Pittsburgh, Pa.

Okla., Tulsa.—Gasoline.—Absorption Gasoline Oil Co., capital \$250,000, inceptd. by J. C. Gillespie, J. A. B. Landell and H. O. Bland.

Okla., Tulsa.—Labette Oil Corp., capital \$10,000, inceptd. by Orville G. Frantz and others.

Okla., Tulsa.—Gasoline.—Baltic Gasoline Co., capital \$50,000, inceptd. by B. M. Van Orman and Ray S. Fellows of Tulsa, and John F. Burke of Buffalo, N. Y.

Tex., Amarillo.—Amarillo Oil Co., capital \$10,000, inceptd. by M. C. Nobles and others.

Tex., Fort Worth.—Fort Worth Co. Opera-

Oil & Gas Co., capital \$8400, incptd. by H. R. Clay, S. R. Hord and J. A. Clay.

Tex., Houston.—Damon Mount Petroleum Co., capital \$25,000, incptd. by O. S. Cunningham, Thos. C. Edwards and J. D. Jackson.

Tex., Houston.—Laguna Oil Co., capital \$100,000, incptd. by Lynch Davidson, H. M. Seaman and R. C. Duff.

Tex., Houston.—Laguna Oil Co., 8th and 12th floors of Carter Bldg., incptd. with \$100,000 capital; Lynch Davidson, Pres.; R. C. Duff, V.-P. and Mgr.; G. M. Seaman, Secy.-Treas.

Tex., Mineral Wells.—Consumers' Gas & Fuel Co. capital \$300,000, incptd. by T. W. Owen, Ned Palmer, W. H. Gross and others.

Tex., Port Arthur.—Gas Plant.—Port Arthur Gas & Power Co. will install gas-storage tank of 200,000 cu. ft. capacity; purchased tank; also purchased machinery to double present capacity. (Noted in March to double capacity of plant, having ordered machinery to produce 450,000 cu. ft. gas, with reserve equipment of same capacity.)

Tex., Wichita Falls.—Inspiration Oil & Gas Co., capital \$50,000, incptd. by H. Sonnamaker, J. P. Avis and others.

ICE AND COLD-STORAGE PLANTS

Ark., Heber Springs.—Arkansas Utilities Co., A. R. Amos, Pres., purchased Heber Springs Ice & Storage Co.'s plant; remove to light plant where other machinery will be installed.

Ark., Little Rock.—Union Ice & Cold Storage Co., capital \$25,000, incptd.; C. E. Rose (V.-P. Arkansas Cold Storage Co.), Pres.; Ike Kempter (of National Ice & Cold Storage Co.), V.-P.; Geo. B. Rose (of National Ice & Cold Storage Co.), Secy.; W. A. O'Leary (of Arkansas Cold Storage Co.), Treas.; understood to acquire properties of Arkansas Cold Storage Co. and National Ice & Cold Storage Co.

Fla., Hopkins.—Union Cypress Co. is interested in proposition to establish ice plant.

Ga., Savannah.—Peoples Ice Co., capital \$2500, incptd. by J. H. Kinzie, R. Palmer Axson and A. L. Purvis; contemplates building ice plant.

Ky., Lexington.—Lexington Ice Co., capital \$25,000, incptd. with F. W. Bacon, Pres.; S. H. Dalley, V.-P. and Gen. Mgr.; Thos. D. Murray, Secy.-Treas.; leased properties of Consumers' Ice & Cold Storage Co.

Miss., Jackson.—R. H. Green will build combined cold-storage plant, grain elevator and feed mill.

Miss., Jackson.—R. H. Green let contract to W. J. McGee, Jackson, to erect building; install ice manufacturing and feed-mixing machinery; daily capacity ice 80 tons. (See Flour, Feed and Meal Mills.)

N. C., Shelby.—S. S. Royster is interested in establishment of cold-storage plant.

S. C., Anderson.—A. S. Farmer, T. B. Earle, Furman Smith and J. Townes Holleman contemplate building cold-storage plant; expend \$50,000 to \$100,000.

Va., Richmond.—Richmond Cold Storage, Inc., capital \$100,000, chartered; Eugene Robinson, Pres.; M. M. Kratz, Secy.

IRON AND STEEL PLANTS

Ala., Talladega.—Iron Furnace, etc.—Bird Coal & Iron Co. organized; E. J. Bird, Pres., advises Manufacturers Record: Acquired Talladega furnace and Seaboard Coal & Coke Co. at Coal City, Ala.; includes 4000 acres brown ore land, 3500 acres coal land, red iron-ore mines at Gadsden and some smaller properties; ore mines' present daily capacity 500 to 600 tons; furnace daily capacity of 120 tons to be increased to 200 or more tons; no additional large machinery needed; E. J. Bird, 3d, Gen. Supt. and Engr. (Lately noted.)

Ala., Trussville.—Iron Furnace.—Birmingham Trussville Iron Co., 517 First National Bldg., Birmingham, organized; E. A. Shedd, Pres.; F. R. Noonan, V.-P.; C. C. Shedd, Secy.-Treas.; all of Chicago; J. H. Adams, Birmingham, Gen. Mgr.; C. B. Shedd, Chicago, and D. E. Mitchell, Birmingham, also interested. (E. A. Shedd lately noted as having purchased Trussville Iron Co. property.)

Md., Baltimore.—Steel Plant.—Bernard N. Baker, 817 Fidelity Bldg.; Emory M. Newton and DuRell Gauge plan to build plant for manufacturing steel, especially for constructing ships. (See Shipbuilding Plants.)

Md., Baltimore.—Steel Furnace.—Hess Steel Corp., Station O, let contract P. J. Cushen, 217-19 St. Paul St., to erect addition to plant at Biddle St. and Loney Lane; 50x33

ft.; use for pouring-room; Blanke & Zinc, Archts., 648 Equitable Bldg., Baltimore. (Lately noted as contemplating extension of electric furnace building.)

Tenn., Chattanooga.—Steel Plant.—Chattanooga Steel Co., C. E. James, Pres., arranged with steel manufacturers to finance and build steel plants; has site; completed some preliminary construction; proposes buying raw material from local furnace, but local capitalists are planning to build furnace especially to supply this steel plant. (Previously reported organized with \$3,000,000 capital, etc.)

LAND DEVELOPMENT

Fla., Miami.—Flava Fruit Corp., capital \$30,000, incptd.; Brooks Rogers, Pres., Petersburg, Va.; H. R. Ross, Secy.-Treas., Jacksonville.

Md., Baltimore.—Emton Land Co. incptd. with \$1,050,000 capital by Emory M. Newton, Gordon P. Paine and Emlin F. Littell; plans to buy land optioned by Mr. Newton; develop property as site for shipbuilding plant and industrial city; 1800 acres; understood Baltimore & Ohio R. R. will construct railway with bridge over Curtis Creek and through Anne Arundel County to shipbuilding plant site, and there build terminals; steel and shipbuilding company, when incorporated, to absorb land company. (See Shipbuilding Plants.)

N. C., Asheville.—Swannanoa Bend Realty Co., Samuel L. Forbes, Pres., purchased 200 acres of Cheesborough farm on Swannanoa River; reported as to develop as location of industrial enterprises; rumored that extensive developments and several manufacturing plants are already assured; Mr. Forbes wires Manufacturers Record: No further statement now available.

S. C., Beaumont.—Old Fort Improvement Co. will develop 50 acres between Port Royal and Beaufort; hotel and cottages; cost about \$200,000; Geo. Waterhouse, Pres.; P. L. Lea, V.-P.; R. C. Horne, Jr., Secy.-Treas. (Lately noted incptd., incorrectly under N. C., Beaufort.)

S. C., Camden.—Savage & Crocher are reported to expend \$25,000 in improvements to property at Kirkwood, to include roadways, etc.

Va., Big Stone Gap.—Unaka Development Corp. increased capital from \$25,000 to \$100,000.

Va., East Radford.—Summit Improvement Corp., capital \$5000, incptd.; J. P. McConnell, Pres.; J. A. Noblin, V.-P.; J. D. Bird, Secy.-Treas.

Va., Portsmouth.—Jersey Queen Corp., capital \$50,000, chartered; E. R. Barksdale, Pres., Portsmouth; C. M. Nottingham, Secy., Norfolk.

Va., Stuart.—Winesap Orchard Co., capital \$50,000, incptd.; T. G. Burch, Pres.; A. L. Lester, Secy., both of Martinsville, Va.

Va., Winchester.—Forest Glen Orchard Co., capital \$30,000, incptd.; H. F. Hetzer, Pres., Williamsport, Md.; Warren Rice, Secy., Winchester.

W. Va., Charleston.—River Land Co., capital \$15,000, incptd. by Houston G. Young, A. Bliss McCrum, Geo. Minsker and others.

LUMBER MANUFACTURING

Ala., Fruitdale.—Lang Mills Co., capital \$8000, incptd. by J. Lang Mills and others.

Ark., Argenta.—Cochran-Foster Lumber Co. increased capital from \$27,000 to \$40,000.

Fla., Fellsmore.—Saunders-McCluer Lumber Co., capital \$10,000, incptd.; Tom W. McCluer, Pres.; D. H. Saunders, V.-P.; D. H. McCluer, Secy.-Treas.

Ky., Ashland.—Wilson-Biggs Lumber Co., capital \$25,000, incptd. by Robt. E. L. Wilson, Wm. A. Biggs and S. S. Willis.

La., Sulphur.—Powell Lumber Co., Lake Charles, will build sawmill on Bayou Choupique; daily capacity 50,000 ft.

La., Wisner.—Pritchard-Wheeler Lumber Co., 1118 Bank of Commerce, Memphis, Tenn., advises Manufacturers Record: Officers not elected; stockholders are Wm. Pritchard, C. L. Wheeler, J. M. Clements, C. G. Kadel and M. S. McGhee; erect mill-construction buildings by company's force; estimated cost of buildings with single band and resaw equipment, \$125,000; manufacture hardwood lumber. Lately noted incptd., capital \$300,000, purchasing 30,000 acres timber and to build mills. (See Machinery Wanted—Boilers, etc.)

Mo., Kansas City.—Higginsville Lumber Co., capital \$15,000, incptd. by C. E. Renfro, M. C. Nelson and Geo. R. N. Byrnes.

N. C., Caswell.—Caswell Lumber Co., capital \$50,000, incptd.; acquired timber land and will develop; J. S. Wooten, Pres., Dover, N. C.; Orrin Weeks, V.-P.; H. C. Wooten, Treas.; W. B. Douglass, Secy.; each of Kinston, N. C.

N. C., Brevard.—Orr-Sitton Lumber Co., capital \$50,000, incptd. by Robt. Orr, R. J. Sitton, A. W. Clayton and Oliver Orr.

N. C., Walnut Cove.—Dan River Lumber Co. will increase capacity of lumber plant. (See Flour, Feed and Meal Mills.)

Okla., Lawton.—Lawton Lumber Co., capital \$10,000, incptd. by A. S. Gilkey, J. W. Wolverton and W. K. Miller.

Okla., Vinita.—Miller-King Lumber Co., capital \$15,000, incptd. by H. C. Miller of Vinita, A. T. King and Ruth M. King of Miami.

S. C., Columbia.—Capital Lumber Co., capital \$10,000, organized by Robt. Moorman and G. E. Shand.

Tenn., Memphis.—Ostby Lumber Co., capital \$20,000, incptd. by J. S. Ostby, T. H. Smith, E. A. Thompson and others.

Va., Grundy.—Jaeger Lumber Co., capital \$50,000, incptd.; E. R. Boyd, Pres.; John W. Flannagan, Jr., Secy.-Treas.

METAL-WORKING PLANTS

Mo., Kansas City.—Wire and Rope.—Black Steel & Wire Co., 413 Bryant Bldg., organized with Harry W. Black, Pres. and Mgr.; Clint Moore, V.-P.; J. E. Sloan, Secy.; erect 200x100-ft. brick building; construction by the company; has placed machinery order; manufacture wire and wire rope. (Lately noted organized, etc., capital \$600,000.)

MINING

Ala., Gadsden.—Iron.—Bird Coal & Iron Co., E. J. Bird, 3d, Gen. Supt., Talladega, Ala., acquired red iron-ore mines and other properties. (See Iron and Steel Plants.—Ala., Talladega.)

Ala., Mayfield.—Clay.—Mayfield Clay Co., capital \$100,000, incptd. with W. M. Reed, Pres., and H. C. Overby, Treas., both of Paducah, Ky.; develop clay mines in Graves county between Mayfield and Pryorsburg; main offices in Paducah, Ky.

Ark., Yellville.—Zinc.—Estes Zinc Co., capital \$80,000, incptd. by A. W. Estes, W. J. Apple and H. L. Britton.

Ga., Macon.—Sand.—Macon Sand Co. (Macon Coal & Wood Co.), B. B. Taylor, Mgr., 6th and Okmulgee Sts., will increase daily capacity of 400 tons concrete sand to 800 tons; machinery, including sand pumps, suction hose, pipe, motors, material for railway tracks, etc., cost \$5000. (Lately noted to install plant for increasing capacity.)

Mo., Duenweg.—Lead and Zinc.—Owosso Mining Co. will rebuild present mill into plant with capacity for handling 800 tons in 24 hrs.; steam or electric power.

Mo., Joplin.—Zinc.—Hegeler Zinc Co., capital \$2000, incptd. by E. F. McDonald, T. O. Vest and Chas. Westcott.

Mo., Kansas City.—Lead and Zinc.—Iron Mountain Mining & Smelting Co., capital \$250,000, incptd. by J. S. Summers, F. M. Smith and F. R. Miller.

Mo., Kansas City.—Lead.—Carolina Mining Co., capital \$4000, incptd. by E. A. Loughran, E. R. Weeks and W. J. Connor.

N. C., Marble.—Iron.—Marble Iron Mining Co., capital \$25,000, incptd. by Anson G. Betts, Benj. Starbuck and Edna Dyson, all of Asheville, N. C.

W. Va., Huntington.—Limestone.—Ernest G. Williams, 730 6th Ave., is interested in proposed installation of machinery to mine and crush limestone. (See Machinery Wanted—Mining and Crushing (Limestone) Machinery, etc.)

Va., Compton.—Minerals.—Mineral Products Corp., capital \$100,000, chartered; F. P. Stehley, Pres.; P. A. Nicklin, Secy.; both of Cumberland, Md.

Va., Perkinsville.—Mica.—Virginia Mica Corp. chartered, capital \$50,000; E. M. Gathright, Pres., Perkinsville; J. R. Massie, V.-P.; T. M. Kennerly, American National Bank Bldg., Richmond, Va., Secy.-Treas.; will install equipment to develop 200 acres. (See Machinery Wanted—Derricks; Air Compressors; Pumps.)

MISCELLANEOUS CONSTRUCTION

Fla., Jacksonville.—Channel.—Merrill-Stevens Engineering Co., 629 E. Bay St., let contract Seaboard Dredging Co., Durkee Bldg., Jacksonville, to construct 1000-ft. canal, 130 ft. wide and 15 ft. deep, on south

side of St. Johns River, opposite Commodore's Point. (See Shipbuilding Plants.)

Ga., Macon.—Fills.—Georgia Southern & Florida Ry., J. B. Munson, V.-P. and Gen. Mgr., Macon, will construct fills (to replace small timber trestles) over east-iron pipe at 139 points in connection with other improvements.

La., Houma.—Levee.—Levee Comms., Orleans Levee Dist., Suite 201, New Court Bldg., will construct following: Kentucky to Andry St., length 3800 lin. ft., contents 32,000 cu. yds. earthwork, removal and re-setting of 3900 lin. ft. revetment; Andry St. to Jackson Barracks, length 3500 ft., contents 65,000 cu. yds. earthwork, removal and re-setting of 3500 lin. ft. revetment; bids until May 16; Wm. McL. Fayssoix, Pres., Levee Comms. (See Machinery Wanted—Levee Construction.)

Md., Baltimore.—Municipal Piers.—City decided upon straight piers for construction along Spring Gardens (Patapsco River) waterfront; Francis Lee Stuart, City Consulting Engr.

Mo., Kansas City.—Ice-skating rink.—Hotel Muehlebach is reported to install ice-skating rink; building entirely under roof; ice area, 105x250 ft.

Tex., Dallas.—Levee.—Dallas County Levee Improvement Dist. No. 2 votes May 26 on \$108,000 bonds to construct levee work to connect with levee work now under construction in Dallas County Dist. No. 1 and Ellis County Dist. No. 3; Dist. comprises 4500 acres. Address County Comms. (Lately noted.)

Va., Richmond.—Channel.—City let contract Hancock & Jones, Richmond, at \$19,189.29 to complete work on Section 5, plan A, Bacon's Quarter Branch channelway; this contract has been transferred from original contractors.

MISCELLANEOUS ENTERPRISES

Fla., Leesburg.—Laundry.—Dixie Laundry will install equipment purchased at cost of \$5000.

Ga., Athens.—Potato Drying.—Athens Canning & Warehouse Co., capital \$10,000, will organize; A. M. Soule, Chrmn., and J. Warren Smith, Treas., of incorporating committee; establish fruit and vegetable cannery and potato kiln-drying warehouse.

Ga., Augusta.—Fire Alarm.—City accepted plan by G. Lloyd Preacher of Augusta for fireproof fire alarm station.

Ky., Louisville.—Transfer Line.—Parker Transfer Line, capital \$1000, incptd. by Edwin J. Gast, Carl F. Hess and Walter Davenport.

Mo., Kansas City.—Publishing.—Oil & Gas News Co., capital \$4000, incptd. by G. T. Rheubottom, H. A. Sloan and P. H. McKinley.

Mo., Springfield.—Publishing.—Springfield Laborer Publishing Co., capital \$20,000, incptd. by J. R. Shockey, John Burke and L. H. Blake.

Mo., St. Louis.—Construction.—Potter Construction Co., capital \$40,000, incptd. by F. W. Glasken, J. O. Wilson and J. Y. Coffman.

N. C., Goldsboro.—Tobacco Stemming.—T. B. Jenkins Tobacco Co., T. B. Jenkins, Mgr., will equip building (to be erected by Goldsboro Construction Co.) as tobacco stemming; structure will be 80x150 ft.; 3 stories; brick; daily capacity 40,000 lbs.

N. C., Statesville.—Printing.—Statesville Printing Co., B. L. Spruce, owner, will occupy building to be erected by D. F. Jenkins; structure will be brick; 25x100 ft.; 2 stories.

Okla., Drummond.—Grain Elevator.—Drummond Elevator Co., capital \$10,000, incptd. by Ira J. Long, L. A. Wegener and W. H. Stewart.

Okla., Enid.—Engineering.—Dixie Engineering Co., capital \$210,000, incptd. by L. E. Cornu, F. C. Shackle and M. P. Funk.

Okla., McAlester.—Grain Elevator.—McAlester Grain & Elevator Co. organized; T. B. Hardeman, Pres.; S. T. King, V.-P.; C. T. Hardeman, Secy.-Mgr.; erect \$10,000 mill-construction building; Contr. T. B. Gill; plans by T. L. Burrell Engineering & Construction Co., Chicago.

Okla., Muskogee.—Printing and Publishing.—Christian Printing & Publishing Co. incptd. by G. E. Fuss and P. B. Bostin of Muskogee, and Lem Vernon of Coveta, Okla.

Tenn., Chattanooga.—Carpet Cleaning, etc. Wallace Bros. Renovating Co., capital \$5000, incptd. by C. R. Wallace, V. D. Wallace, G. W. Chamlee and others.

Tex., Castroville.—Cotton Protecting Co., capital \$50,000, incptd. by Henry Steink, Sr., of Castroville, Frank Montel and L. L. Nail of Jourdanton, Tex.

Va., Richmond—Laundry.—Pearl Laundry Co., capital \$25,000, inceptd. by B. N. Chapman, Pres.; R. T. Bowden, Secy.-Treas.; purchased machinery.

W. Va., Dunbar—Publishing.—Dunbar Advance Publishing Co. inceptd. by L. A. Fraser, D. F. Tracey, H. N. Hutchinson and others.

W. Va., Pennsboro — Bowling Alley, Plumbing Shop, etc.—E. D. Gray will install plumbing shop in structure to be rebuilt on Main St. for bowling alley, plumbing shop and offices by Guy Flannagan, owner; cost \$13,000; 40x96 ft.; brick; metal or slag roof; wood and concrete floor; gas-heating stoves; gas and electric lighting; plans by Wm. Cowell, Pennsboro; Contr., Chas. Shinn, Clarksburg, W. Va. (See Machinery Wanted—Electrical Equipment.)

MISCELLANEOUS FACTORIES

Ala., Albany—Brooms.—Albany Broom Co., capital \$500, organized with A. G. Patterson, Pres.; J. H. Lovin, V.-P.; I. J. Kuhn, Secy.-Treas. (Lately noted organized and acquired local plant.)

Ala., Birmingham—Beds.—Birmingham Bed Factory increased capital by \$15,000.

Ark., Fordyce — Lime Products. — Lime Products Co., capital \$15,000, inceptd. by A. B. Banks, John R. Hampton, F. B. Lane and others.

Fla., St. Augustine. — Chas. Weinberger Co., capital \$10,000, inceptd.; J. A. Lew, Pres.; S. Weinberger, V.-P.; Chas. Weinberger, Secy.-Treas.

Ga., Rome—Overalls, etc.—Harper Mfg. Co., capital \$25,000, inceptd. by C. C. Harper, Ed. Rankin, E. C. Malone and others.

Ga., Savannah—Clothing.—Globe Mfg. Co., capital \$25,000, inceptd. by Elton S. Osborne, Alva Herzog and Edmund H. Abrahams.

Ky., Bardonia — Tobacco. — Bardonia Loose Leaf Tobacco Co., capital \$10,000, incorporated by H. D. Stiles, R. N. Cook, Clarence Hurst and J. E. Barlow.

Ky., Louisville—Freezers.—Casmire Freezer Mfg. Co., capital \$25,000, inceptd. by Wm. H. Haney, Wm. H. Bohlsen and M. F. Haney.

La., Gueydan—Rice.—Nutro Rice Mill, capital \$40,000, organized with Henri L. Gueydan, Pres.; J. R. Riley, Secy., and R. M. Montague, Treas., all of Gueydan; Leon Locke, V.-P., Lake Charles.

Mo., Kansas City—Railroad and Mill Supplies, etc.—Gustin-Bacon Mfg. Co. increased capital from \$80,000 to \$150,000.

Mo., St. Louis—Binder.—Dawson Binder Co. increased capital from \$25,000 to \$35,000.

Mo., St. Louis—Paint.—Odorless Paint Co., capital \$50,000, inceptd. by A. White, C. B. R. Fitz Williams, both of St. Louis, and Walter T. Turner of Larchmont, N. Y.

N. C., Asheville—Bottling.—Coca Cola Bottling Co. increased capital from \$50,000 to \$150,000.

N. C., Charlotte—Leather Belting.—Charlotte Leather Belting Co. will install additional equipment to double capacity; purchased equipment; manufactures 700 to 800 hides per week into belting, but plans to increase output to 1200.

N. C., Greensboro — Chemicals. — Hill's Chemical Co., capital \$100,000, inceptd. by R. R. Hill, Jas. A. Long and Chas. A. Hines.

N. C., Statesville — Bottling. — Statesville Mint Cola Bottling Co., capital \$10,000, inceptd. by W. L. Gilbert of Statesville, A. S. West and F. T. Patterson of Salisbury.

Okla., Geary—Veterinary Medicine.—J. W. Pinkerton Veterinary Medicine Co., capital \$10,000, inceptd. by J. W. Pinkerton and C. M. Taylor of Geary, and M. W. Goods of Hinton, Okla.

Okla., Henryetta.—Price Mfg. Co., capital \$60,000, inceptd. by Jas. W. Price, S. A. Evans and J. K. Vaughan.

S. C., Darlington — Bottling. — Pepsi-Cola Bottling Co., capital \$10,000, inceptd.; J. L. Edwards, Pres.-Treas.; C. B. Edwards, V.-P.; J. L. Welling, Treas.

Tenn., Johnson City—Chemicals.—Cinchfield Products Corp. increased capital from \$150,000 to \$2,000,000.

Tenn., Memphis — Chemicals. — Memphis Chemical Co., capital \$25,000, inceptd. by R. L. Matthews, W. H. Fitzhugh, T. J. Turley and others.

Tenn., Memphis—Disinfectants, etc.—National Mfg. Co., capital \$500, inceptd. by G. P. Schocker, Jesse Edgington, N. C. Lienhardt and Hugh Edgington.

Tenn., Memphis—National Mfg. Co., capital \$500, inceptd. by H. C. Toohy, Geo. P. Schlocker, Jesse Edgington and others.

Tenn., Morristown.—Hart Mfg. Co., capital \$60,000, inceptd. by D. A. Isely, E. R. and H. M. Taylor and others.

Tenn., Nashville — Roofing and Roofing Products.—Metamel Products Co., capital \$50,000, inceptd. by A. L. Whitfield, Paul W. Hoggins and others.

Tex., Dallas—Gloves.—Tom B. Burnett & Co., manufacturers of cotton-felt mattresses, etc., will install machinery to make canvas gloves. (See Machinery Wanted—Glove (Canvas) Machinery.)

Tex., Dallas—Overalls.—Hamilton-Carhartt Overall Co., Main and Austin Sts. (main offices, Detroit, Mich.), will erect additional factory; 3 stories; 60x120 ft.; cost \$50,000; double present capacity.

Tex., Orange — Aeroplanes. — Orange Aero Co., capital \$20,000, organized by N. L. Mayhew, N. W. Payne, W. P. Kitchens and others.

Tex., Pittsburg — Mattresses. — Pittsburg Mattress Co. organized; W. P. Grammar, Pres.; W. C. Hargrove, Secy.; Ben. B. Scott, Mgr.; erect 48x48-ft. and 32x100-ft. buildings (has 60x100-ft. building); cost \$4000; ordinary construction; install equipment to manufacture cheap and high-grade mattresses; daily capacity 300. Lately noted to be established by Pittsburg Cotton Oil Co. (See Machinery Wanted—Mattress Machinery.)

Tex., San Antonio.—Peerless Bottling Co., capital \$20,000, inceptd. by Otto Gustave Neumann, A. Naval and J. H. Haile.

Va., Bristol—Bottling.—Marks Co., capital \$15,000, inceptd.; H. Hecht, Pres.; Max Marks, Secy.

Va., Grant — Cheese. — Grant Co-operative Cheese Factory Association, capital \$2500, inceptd.; S. J. Hoffman, Pres.; S. G. Thomas, Secy.-Treas.

Va., Norfolk — Bottling. — Bevo Beverage Co., capital \$50,000, inceptd.; W. T. Old, Pres.; Nimmo Old, Secy.

Va., Roanoke.—Eaton's Uzon Co., capital \$25,000, inceptd.; L. A. Ayers, Pres.; Clarence Woods, Secy.-Treas.

Va., Roanoke—Gas Lighters.—Safety Gas Lighter Corp., capital \$50,000, chartered; Geo. W. Payne, Pres.; C. M. Armes, Secy.

Va., Weyer's Cave.—Edson Bros., capital \$10,000, inceptd.; Wm. D. Edson, Pres.; J. E. Edson, Secy.; both of Philadelphia, Pa.

Va., Weyers Cave—Bottling.—King Cola Bottling Co., capital \$500, inceptd.; W. F. Fretwell, New Hope, Va., Pres.; J. C. Wrenn, Secy.; L. Werner, Mgr.; erect 47x27-ft. ordinary-construction building; install machinery and equipment, cost \$5000, for bottling soft drinks.

W. Va., Bluefield—Bakery.—B. F. Hyde Co., capital \$500, inceptd. by B. F. Hyde, L. R. Whitaker and Mrs. B. F. Hyde.

W. Va., Charleston—Chemicals. — Warner-Klipstein Co., L. M. Phelps, Gen. Mgr., will build additions; has plans and specifications for power-house; further plans provide for doubling capacity of chlorine products and caustic soda, also for adding manufacture of salt, calcium chloride and magnesia chloride; drill salt wells and install evaporators; proposes weekly capacity 100 tons salt, using portion of product to manufacture chemicals.

W. Va., Huntington — Aeroplanes. — Kyle Smith Aircraft Co., capital \$200,000, inceptd. by A. K. Kessler, L. J. Coby, A. J. Lacey and others.

MOTOR CARS, GARAGES, TIRES, ETC.

Ala., Birmingham — Tires, etc. — Southern Tire & Accessories Co., capital \$25,000, inceptd. by J. T. Fenton and Evans Dunn.

Ala., Birmingham — Tires. — Acme Rebuilt Tire Co., capital \$2000, inceptd.; Herman Lanzner, Pres.; Louis Kisher, V.-P.; Victor C. Burk, Secy.-Treas.

Fla., Miami—Tires.—Miami Tire Co., capital \$50,000, inceptd. by Nathan O. Penny, Howard E. Condon and Thos. F. Ford.

Ga., Atlanta — Service Station. — Willard Storage Battery Co. will occupy building to be erected at cost of \$17,500; mill construction; plans by Hentz, Reid & Adler, Atlanta; Contr., Flagler Co., 905 Healey Bldg., Atlanta. (Lately noted to be erected by Mrs. Kate Cox.)

Ga., Atlanta—Garage.—James R. Wylie Co. let contract to Fulton County Home Builders, Atlanta, to erect garage to be occupied in part by Southern Oakland Co., 3 stories and basement; 101x150 ft.; terra-cotta front with plate-glass windows; sprinkler system; cost \$75,000.

Ky., Lexington — Garage. — Land-Scott Garage Co., capital \$1000, inceptd. by L. M. Land, Harrison Scott and Mattie Scott.

Ky., Perryville—Garage.—Perryville Motor Co. let contract to J. H. Westerfield, Perryville, to erect 50x100-ft. brick garage, cost \$5000; asbestos roofing; concrete floors; steam heat; electric lighting; plans by Ford Motor Co., Louisville, Ky.

Md., Baltimore—Service Bldg.—Tire Co. of Baltimore, 135 W. Mount Royal Ave., will erect service-department building costing \$40,000, adjoining present building.

Mo., Kansas City—Garage.—A. H. Munger will erect garage; 1 story; brick; cost \$6500.

N. C., Greenville—Garage.—National Garage organized; Jas. M. Hines, Pres.; J. T. Pairo, V.-P.; W. S. Atkins, Secy.-Mgr.; will erect 104x135 ft. building, cost \$12,000; Campbell & Baker, Contr., Greenville; machinery purchased. (Lately noted inceptd., capital \$25,000.)

Okla., Muskogee — Automobiles. — Elliot Motor Co., capital \$10,000, inceptd. by A. T. Corbin, C. S. Elliot and C. T. Thompson.

Tenn., Knoxville—Tractors.—Oliver Tractor Co., inceptd. by W. J. Oliver, E. Clyde Hammond, Carl F. Nelson and others.

Tenn., Memphis—Garage.—Mutual Garage Co., capital \$1000, inceptd. by J. C. Bushnell, W. E. McClellan, W. H. Wolf, Jr., and others.

Tenn., Nashville — Automobiles. — Motor Service Co., 908 Broadway, inceptd. by Frank D. Fisher, I. D. Fisher, H. A. Adams and others; specialize in battery installation and repairing.

Tex., Abilene—Automobiles and Accessories.—Spaulding Automobile Co. organized; John R. Spaulding, Pres.-Mgr.; J. E. Spaulding, V.-P. and Secy.; has building; deal in automobiles and accessories; painting, upholstering and tops. (Lately noted inceptd., capital \$10,000.)

Tex., Beaumont — Garage. — T. S. Reed Grocery Co., Bowie and Fannin Sts., let contract to Herman Weber, Beaumont, to erect 42x120-ft. brick building, mainly for garage for motor trucks; cost \$5000; asbestos roofing, concrete floors, electric lighting; plans by Mauer-Knoblock-Simank, Beaumont.

Va., New Market — Automobiles. — J. W. Clinedinst Carriage & Motor Co., capital \$50,000, inceptd.; J. W. Clinedinst, Pres.; M. A. Price, Secy.

Va., Norfolk—Garage.—Barton Myers will erect garage; cost \$4000.

Va., Richmond—Garages.—Harvey C. Brown will erect 12 brick garages.

Va., Richmond — Automobiles. — Richmond Motor Co., 311 E. Broad St., will erect garage; 2 stories; 67x127 ft.; first floor for offices and display-rooms; second floor for service department; cost \$40,000; P. P. Pilcher, Archt.; G. G. Worsham, Contr.

Va., South Hill — Automobiles. — Capitol Motor Corp., capital \$10,000, chartered. R. L. Andrews, Pres.; L. A. Thomason, Secy.

W. Va., Charleston—Automobiles.—Craig-Alderson Co., capital \$20,000, inceptd. by C. H. Craig, L. H. Craig, J. B. Alderson and others.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSE, ETC.

Ky., Paducah.—Illinois Central R. R., A. S. Baldwin, Chief Engr., Chicago, will install shop machinery to cost \$60,000.

Va., Roanoke—Virginian Ry., H. Fernstrom, Ch. Engr., Norfolk, will improve and enlarge shops and freight yard.

ROAD AND STREET WORK

Ala., Bay Minette.—Baldwin County will grade and construct road from Robertsedale to Nunee Ferry, 18 mi.; bids until June 6; J. M. Garrett, Engr.; L. Glendinning, Road Commr. Third Dist., Baldwin, Ala. (See Machinery Wanted—Road Construction.)

Ala., Birmingham. — City Com. let contract H. N. Bowdry at \$27,752.90 to pave sections of 19th St., N. Huntsville Rd., 14th Court, 16th St. and 22nd St.; Birmingham Railway, Light & Power Co. will pave all streets within plot bounded by its tracks.

Ala., Carrollton. — Pickens County votes May 8 on \$130,000 warrants to construct roads. Address County Commrs.

Ala., Eutaw.—Greene County will grade and drain part of State Trunk Road No. 7, between Eutaw and Tuscaloosa County line; date of opening bids postponed from May 14 (lately noted) to May 26; W. S. Keller, State Highway Engr., Montgomery. (See Machinery Wanted—Road Construction.)

Ark., Clarksville.—City will soon let contract to construct street paving; D. Ward Dunlap, A. N. Ragan and Nat Clark, Commissioners.

Ark., Jonesboro.—City will pave 15 mi. of streets; cost \$360,000; Commrs. receive bids until May 23.

D. C., Washington. — District Commrs. will pave various streets and avenues with sheet asphalt and asphalt block; bids until May 21. (See Machinery Wanted—Paving.)

Fla., Bartow.—Polk County Commrs., J. A. Johnson, Clerk, Special Road and Bridge Dist. No. 1 (Dist. of Winter Haven) will construct about 302,000 sq. yds. asphalt road paving, with pipe drainage, culverts, etc., and 9 reinforced concrete bridges of 20-ft. span each; receive bids until May 26; Engr., G. Wallenweber, Winter Haven. (See Machinery Wanted—Road and Bridge Construction.)

Fla., Gainesville.—Alachua County, Dist. No. 5, W. B. Taylor, Bond Trustee, voted \$500,000 bonds for road and bridge construction. (Noted in March.)

Fla., Tampa.—Hillsborough County, Citrus Park Dist., voted \$100,000 bonds to construct roads. Address County Commrs. (Lately noted.)

Ga., West Point.—City votes May 29 on \$20,000 to grade, drain, pave or macadamize streets. John T. Johnson, Mayor.

Ky., Pineville.—Bell County Commrs. let contract J. A. Kries & Co., Knoxville, Tenn., at \$102,000 to construct all macadam roads in county (except Boone-Dixie Highway) from Knox County line to Middlesboro.

La., De Ridder.—Beauregard Parish Police Jury will construct 38 mi. of dirt road and 100 mi. of gravel roads; plan 2 main highways, north and south, one from De Ridder to Gillis, 33 mi., and one from De Ridder to De Quincy, 29 mi.; other roads are: De Ridder to Dry Creek, 14 mi.; De Ridder to Ludington, 2 mi.; De Ridder to Merryville, 20 mi.; De Ridder to Sugartown, 16 mi.; Juanita to Starks, 23 mi.; open bids May 21; \$550,000 available; L. S. Bryant, Road Engr.

La., Gretna.—City will pave sections of Copernicus, First, Washington and other streets; asphaltic material and small granite blocks on concrete sub-base; bids until May 21; John Ehret, Mayor. (See Machinery Wanted—Paving.)

La., Lake Providence.—East Carroll Parish, C. S. Wylie, Secy. Police Jury, voted \$100,000 bonds for road construction.

Md., Caroline County. — Maryland State Roads Com., 601 Garrett Bldg., Baltimore, asks bids until May 15 to construct 1.18 mi. concrete road through Federalsburg. (See Machinery Wanted—Road and Bridge Construction.)

Md., Chestertown.—Kent County will construct State-aid highways as follows: Ireland's Corner to Massey, 3 mi.; Still Pond Station to State Rd., 2.21 mi.; through Village of Still Pond, .75 mi.; through Betterton, .53 mi.; also construct Crumpton bridge across Chester River, connecting Kent and Queen Anne's counties, 200 ft. long; County Commrs., Sam Hicks, Clerk, receives bids until May 15. (See Machinery Wanted—Road and Bridge Construction.)

Md., Denton.—Caroline County Commrs. let contract Juanita Paving Co., Philadelphia, Pa., at \$16,000 to construct 1½ mi. of stone macadam road from Federalsburg toward Hynson; Harry Waldorf, County Roads Engr. (Lately noted inviting bids.)

Miss., Clarksdale.—City will construct 30,000 sq. yds. asphaltic concrete pavement, 7000 lin. ft. curb and gutter, inlets, etc.; City Commrs. receive bids until May 22; W. S. Bobo, City Engr. (See Machinery Wanted—Paving.)

Miss., De Kalb.—Kemper County Commissioners, Dist. 2, will construct 20 mi. macadam and sand-clay road, Jackson Highway; surveys being made by Snowden & Hauser, Columbus, Miss.; let contract in May. (Lately noted to cost \$35,000.)

Miss., Greenwood.—Le Flore County Commissioners let contract Kane-Kelly Construction Co., New Orleans, at \$311,281.25 and to McTigue-Hewey Co. of Hazlehurst, Miss., at \$34,466.62 to construct gravel roads; total of 150 mi.

Miss., Port Gibson.—Claiborne County Supvrs., L. B. Allen, Pres., will gravel roads and construct iron and concrete bridges; open bids May 8; \$40,000 available. Lately noted. (See Machinery Wanted—Road and Bridge Construction.)

Miss., Tunica.—Tunica County Commrs. contemplate constructing roads to cost \$250,000.

Mo., Danville.—Montgomery County, Mincola Dist., voted \$35,000 bonds to construct 23 mi. of road. Address County Commrs.

Mo., Independence.—Jackson County Commissioners let contract Nicholas Miller of Kansas City at \$98,260.50 to construct section of Beardsley Road.

N. C., Asheville.—City, J. E. Rankin, Mayor, will issue \$35,000 bonds for street improvements.

N. C., Durham.—Erwin Cotton Mills will construct sidewalks.

N. C., Winston-Salem.—Forsyth County Commrs. contemplate \$50,000 bond issue to construct roads.

Okla., Bristow.—City, C. T. Schrader, Mayor, will construct 15 blocks pavement; Benham Engineering Co., Engr., Colcord Bldg., Oklahoma City; date of opening construction bids not set.

Okla., Purcell.—McClain County, Goldsby Township voted \$30,000 road and bridge bonds. Address County Commrs.

S. C., Greenville.—City let contract West Construction Co., Chattanooga, at \$94,386 to construct 50,000 sq. yds. of street paving of which 37,000 sq. yds. will be asphaltic concrete and balance sheet asphalt; contract includes 20,300 lin. ft. granite curb; also let contract Greenville Title Co. at \$11,095 to construct 6000 sq. yds. sidewalk paving; W. F. B. Hayndworth, City Engr. (Lately noted inviting bids.)

Tex., Abilene.—Taylor County, E. M. Over-shiner, County Judge, will repair roads at cost of \$30,000; by regular force. (Lately noted to vote May 19 on \$115,000 bonds for road improvements and maintenance.)

Tex., Angleton.—Brazoria County, Angleton Dist., is reported to vote on \$50,000 bonds to construct roads. Address County Commrs.

Tex., Archer City.—Archer County Commissioners are considering issuance of \$60,000 in script to improve roads.

Tex., Boerne.—Kendall County voted \$40,000 bonds to construct roads. Address County Commrs.

Tex., Groesbeck.—Limestone County voted \$100,000 bonds to construct roads. Address County Commrs.

Tex., Jourdanton.—Atacosa County, Lytle Precinct, votes May 12 on \$30,000 bonds to improve roads. Address County Commrs.

Tex., Waco.—City will pave South Fifth St., from Jackson to Speight Sts.; 13,150 sq. yds. paving and 3025 cu. yds. excavating; bitulithic, bituminous concrete, vertical fiber brick laid flat or creosoted wood block; J. F. Stamp, Commr. of Streets, receives bids until May 3; Jno. C. Davis, City Secy. (See Machinery Wanted—Paving.)

Va., Farmville.—City, Paul T. Boggs, Clerk, postponed until June 14 vote on \$50,000 bonds for streets, water-works and electric lights; Wm. M. Platt, Engr., Durham, N. C. (Noted in March for earlier date.)

Va., Lynchburg.—City will resurface Elmwood Ave. from Kensington St. to Woodland Ave. with asphalt macadam and Bedford Ave. from Lexington Turnpike to Rivermont Ave. with granite rubble stone; 2000 sq. yds. asphalt macadam resurfacing; 2400 sq. yds. granite rubble; 2400 lin. ft. 4-in. granite curb; 2000 cu. yds. excavation; bids opened April 25; H. L. Shaner, City Engr.

W. Va., Fayetteville.—Fayette County, Sewell Mountain Dist., let contract Carey & Reed, Lexington, Ky., to construct 14.5 mi. 14-ft. bituminous macadam road, using native stone; estimated cost \$175,000. (Lately noted as having rejected bids.)

W. Va., Moundsville.—City will construct concrete curb and paving 24 ft. wide, on concrete base with grout filler, on Purdy Ave., from 13th to 14th St.; O. B. Bonar, Clerk, receives bids until May 16. (See Machinery Wanted—Paving.)

SEWER CONSTRUCTION

Ga., Swainsboro.—City, W. H. Proctor, Mayor, defeated bonds for sewer and water construction. (Noted in Mch. to vote \$50,000 bonds.)

Ky., Louisville.—Board of Public Works will re-arrange route of proposed Pennsylvania and Field Ave. sewers, and invites bids until May 7; let contract K. Barber at \$250 to construct sewer in Payne St. from Baxter Ave. to Pine St.

Miss., Natchez.—City will issue \$15,000 sewer and water-works bonds. F. Winchester, Supt.

N. C., Winston-Salem.—City let contract Dabbs & Myers of Meridian, Miss., at \$70,000 to construct 20 mi. of sewers; Jos. Firth, City Engr. (Lately noted inviting bids.)

S. C., Bishopville.—City, W. S. James, City Clerk, asks bids until May 22 to construct sewer system and water-works exten-

sion; J. B. McCrary Co., Engr., Atlanta, Ga. (See Machinery Wanted—Sewer System and Water Extension.)

SHIPBUILDING PLANTS

Ala., Mobile.—Barrett Shipbuilding Co., capital \$13,000, inctpd. to build ships; Geo. S. Leatherbury, Prest.; J. T. Schley, V.-P.; Wm. R. Quina, Secy.-Treas.

Ala., Mobile.—Marine Transport Co. incorporated with nominal capital \$3000 by Peyton Norville, W. J. Norville and others; build plant for constructing submarine chasers and other vessels.

Fla., Jacksonville.—Florida Shipbuilding Co. (Fred. McConnell and others) plans shipyards. (See Fla., Tampa.)

Fla., Jacksonville.—Merrill-Stevens Engineering Co., 630 E. Bay St., let contract Seaboard Dredging Co., Durkee Bldg., Jacksonville, to construct 1000-ft. canal 130 ft. wide and 15 ft. deep on south side of St. Johns River, opposite Commodore's Point, to be used in connection with extension of shipbuilding plant. (Noted in March as having plans to enlarge ship yards and construct berths for four 5000-ton steel vessels.)

Fla., Pensacola.—Dwyer Bros. of New York are considering establishment of shipbuilding plant.

Fla., Pensacola.—Florida Shipbuilding Co. (Fred. McConnell, Jacksonville, and others) plans shipyards. (See Fla., Tampa.)

Fla., Tampa.—L. E. Knight and Mc. Gucken & Hyer propose to construct shipbuilding plant; have site on estuary; build wooden ships up to 300 ft. long.

Fla., Tampa.—Florida Shipbuilding Co. organized by Fred. McConnell of Jacksonville, Fla.; C. W. Deen of Lakeland, Fla.; Wm. Wells of Arcadia, Fla., and J. M. Murdock of Washington, D. C.; build plant for constructing wooden vessels; plans branch yards at Jacksonville and Pensacola; Mr. Deen, Prest.

Md., Baltimore.—Bernard N. Baker (317 Fidelity Bldg.), Emory M. Newton and Du Rell Gauge proposes organization of company capitalized at \$50,000,000 and possibly \$75,000,000; build plant to manufacture steel and construct ships; contemplates initial unit costing \$43,000,000; site on Patapsco River in Anne Arundel County; reported that Pittsburgh steel manufacturers and New York bankers are now formulating plans for organization. See Land Developments. (Bernard N. Baker and associates lately noted planning \$50,000,000 shipbuilding company, etc.) Emtan Land Co. inctpd. with \$1,050,000 capital to buy land (optioned by Mr. Newton) for shipbuilding plant and industrial city; 1800 acres; on Patapsco River in Anne Arundel County, near Baltimore; steel and shipbuilding company, when inctpd., to acquire land company.

S. C., Georgetown.—Georgetown Shipbuilding Corp. organized by C. S. Juell and others; New York capitalists interested; Mr. Juell wires Manufacturers Record: Capital secured for \$3,000,000 shipyards; one-third paid; plan foundry, machine shop, planing mill, marine railway for vessels not exceeding 200 ft. and floating drydock for vessels not exceeding 600 tons; not finally decided to build at Georgetown; may locate elsewhere.

Tex., Beaumont.—McBride & Law Shipbuilding Co. proposes to construct shipbuilding plant on Neches River.

Tex., Beaumont.—Crowell Shipbuilding Co. proposes to construct shipbuilding plant on Neches River.

Tex., Beaumont.—John H. Kirby, B. Frank Bonner and C. O. Yoakum of Kirby Lumber Co. prepare to construct shipbuilding plant on Neches River; build wooden ships up to 200 ft. long.

Tex., Galveston.—Galveston Drydock & Construction Co., J. P. McDonough, Prest., proposes to build plant for constructing seagoing vessels on Pelican Island; plans to provide for shipyards, marine ways and drydock; construct wooden schooners and steel tugs; build only hulls; owners to install machinery; now has machine shops and marine ways on channel.

Tex., Galveston.—Seaboard Transportation & Shipping Co. organized; Henry J. Schutte, Gen. Mgr.; T. J. Anderson, Naval Architect and Marine Engr.; Galveston, Houston and New Orleans capitalists interested; initial investment of \$100,000 to construct shipbuilding plant; plans increase to \$500,000 and then to \$750,000; build marine railway for ships up to 1000 tons; also build drydock, mooring station and storage for fuel supplies; initial construction will be wooden schooners and steamers supplying tonnage for Government.

Tex., Orange.—W. H. Grannis, 2320 Harlem Ave., Baltimore, Md., plans organization of company to build shipyards on Sabine River, 24 mi. from Gulf of Mexico; construct 1000-ton wooden vessels.

Tex., Orange.—John M. Dullahan of Orange, A. A. Dougherty of New York and others will establish shipbuilding plant; construct 7 marine ways; ordered machinery to equip ways; build wooden ships and tank steamers up to 300 ft. long; plant site on Texas-side of Sabine River; Edw. F. Terry of Terry & Tench Construction Co., Marine Archts. and Engrs., New York, in charge of constructing ways and vessels.

Va., Quantico.—Potomac Shipbuilding Co. proposes to construct shipbuilding plant; has not fully determined character and extent of yards; George C. Shepard, Engr. and Gen. Mgr., Elderslie Ave. near Pimlico, Baltimore, Md. (Lately noted chartered with \$3,000,000 authorized capital, Orren G. Staples, Prest., Washington, D. C., and George Purvis, Secy.-Treas., Fredericksburg, Va.)

TELEPHONE SYSTEMS

Ky., Williamsburg.—Whitley County Telephone Co. organized; C. A. Terrell, Prest.; J. S. Terrell, V.-P.; C. A. Johnson, Secy. and Gen. Mgr.; A. B. Johnson, Treas.; purchased Williamsburg Home Telephone Co.'s system; will re-equip. (Lately noted incorporated with \$3000 capital.)

Mo., Kansas City.—Kansas City Home Telephone Co. will erect \$100,000 telephone exchange; purchased site 50x150 ft.

Tex., Ochiltree.—Ochiltree Telephone Co. increased capital from \$10,500 to \$30,000.

Tex., Waco.—Brazos Valley Telegraph & Telephone Co. will issue \$1,000,000 bonds to pay present indebtedness, improve plant, extend system, replace bonds of Texas Telephone Co. which company it will acquire, purchase building occupied by Texas Company at Mart, purchase Central Texas Telephone Co.'s plant at Walnut Springs, \$115,000 to improve plant at Waco, and \$100,000 to construct toll line between Waco and Dallas.

W. Va., Lookout.—Mt. Lookout Telephone Co., capital \$5000, inctpd. by C. A. McClung, L. C. McClung, L. E. Moses and others.

TEXTILE MILLS

Ga., Augusta.—Press Cloth.—Southern Press Cloth Co. is having plans prepared by Goodrich & Clark, Campbell Bldg., for mill addition; 2 stories; "L" shape; 22,084 sq. ft.; brick; mill construction; probably tar and gravel roof; steam heat; so constructed as to permit erection of additional story; also build boiler-house; estimated cost \$25,000.

N. C., Salisbury.—Damask.—Ivy Damask Mills, capital \$50,000, inctpd. by R. Lee Mahaley and T. B. Marsh of Salisbury, D. D. Campbell and Wm. Bennett of New York.

S. C., Anderson.—Hosiery.—Hetrick Hosiery Mill, Walhalla, S. C., will erect hosiery mill; 50x215 ft. (See S. C., Walhalla.)

S. C., Orangeburg.—Cotton Goods, etc.—Santee Mills organized; Wm. Elliott, Prest.; H. K. Drew, V.-P.; E. W. Mullins, Secy.; F. E. Whitman, Treas., all of Columbus, S. C. (Lately noted inctpd. with \$225,000 capital.)

S. C., Walhalla.—Hosiery.—Hetrick Hosiery Mill has plans to enlarge mill; also purchased site at Anderson on which to erect hosiery mill 50x215 ft. (Lately noted as planning to increase capital from \$33,000 to \$50,000.)

Tenn., Erwin.—Hosiery.—Erwin Knitting Mills, capital \$10,000, inctpd.; H. G. Morrison, Prest.; F. M. Kelly, Secy.; both of Johnson City, Tenn. (Lately noted organized.)

Tenn., Knoxville.—Hosiery.—Ashe Hosiery Mills, capital \$25,000, inctpd. by J. J. and Reagan Ashe, Walter Darnell, W. C. Skaggs and C. K. Swan; remodel building at Emory Place and North Gay St.; install machinery for daily capacity 650 dozen pairs hosiery.

Tenn., Loudon.—Hosiery.—Loudon Hosiery Mills increased capital \$100,000 to \$300,000.

Tex., Austin.—Cordage.—Wm. J. Frees, Prest., Austin Cordages Co., 913 Littlefield Bldg., interested in plan to establish cordage and twine mill. (See Machinery Wanted—Cotton Machinery.)

Va., Pulaski.—Knit Goods.—Paul Kalting Mills contemplates enlargement of knitting plant and erection of dye plant; purchased site with 125-ft. frontage.

Va., Waverly.—Hosiery.—Waverly Hosiery Mills, capital \$30,000, inctpd. by P. Fleetwood, Prest.; J. B. Smith, V.-P.

WATER-WORKS

Fla., Fort Myers.—Fort Myers Golf & Yacht Club, A. L. White, Secy. and Engr., will expend \$5000 to construct water system; probably drill wells from 80-ft. level or deep-flowing wells about 750 ft. (Lately noted.)

Ga., Hamilton.—J. R. Lowe contemplates constructing water-works.

Ga., Swainsboro.—City, W. H. Proctor, Mayor, defeated bonds for water-works and sewers. (Noted in Mch. to vote \$50,000 bonds.)

Miss., Natchez.—City will issue \$15,000 water-works and sewer bonds. F. Winchester, Supt.

Okla., Gates.—City voted \$15,000 bonds to construct water-works. Address The Mayor.

Okla., Oklahoma City.—Board of Commrs., C. F. Semmelbeck, City Clerk, asks bids, opened May 15, for water-works construction, Section K, comprising excavating and concreting clear well. (See Machinery Wanted—Well-water Construction.)

Okla., Tulsa.—City contemplates improvements to water-works to cost \$675,000; Stevens & Stiles, Engr., Kansas City, submitted report and estimates. John H. Simmons, Mayor.

S. C., Bishopville.—City, W. S. James, City Clerk, asks bids until May 22 on water extension and sewer system; J. B. McCrary Co., Engr., Atlanta, Ga. (See Machinery Wanted—Sewer System and Water Extension.)

Tenn., Lenoir City.—City will issue \$25,000 bonds for water-works. J. W. Buffell, Supt.

Tenn., Sparta.—Sparta Water Co., J. E. Thompson, owner, 1514 Ashwood Ave., Nashville, Tenn., will expend \$12,000 to \$15,000 to extend water-works; 200,000 gals. capacity; standpipe. Plant lately noted purchased by Mr. Thompson. (See Machinery Wanted—Pipe.)

Tex., Houston.—City let contract Layne & Bowler Co., Houston, at \$51,500 to drill and equip wells at south side water plant.

Tex., Houston.—City let contract Chas. S. Basham at \$18,970.58 to construct South Side water-works station. E. E. Sands, City Engr.

Va., Farmville.—City, Paul T. Boggs, Clerk, postponed until June 14 vote on \$50,000 bonds for water-works, electric lights and streets; Wm. M. Platt, Engr., Durham, N. C. (Noted in March for earlier date.)

Va., Franklin.—City, J. B. Gay, Mayor, will install filtering plant and make line extensions at cost of \$17,000.

Va., Norfolk.—City appropriated \$50,000 to extend water mains. Walter H. Taylor, Jr., City Engr.

W. Va., Barboursville.—H. E. Love, Grant Shippe and A. E. Mays, all of Guyandotte, W. Va., purchased Barboursville water-works; install additional machinery and construct reservoir.

WOODWORKING PLANTS

Ala., Guntersville.—Excelsior.—J. A. McKinstry, care of Guntersville Realty Co., is interested in proposed organization of excelsior plant. (See Machinery Wanted—Excelsior Machinery.)

Ark., Brinkley.—Cooperage.—Arkansas Cooperage Co., capital \$50,000, inctpd. by J. M. Myers, R. J. Goepfinger, W. F. Cleveland and others.

Ark., Horatio.—Staves.—Beeson Stave Co. increased capital from \$10,000 to \$40,000.

Mo., Jefferson City.—Saddle Trees, etc.—J. M. Hays Wood Products Co., capital \$30,000, inctpd. by Jas. M. Hays, Paul S. Hallenberger and Walter Hampton.

Mo., St. Louis.—Chairs.—Western Chair Co., capital \$8000, inctpd. by Arthur Franke, Edwin Lochmoeller and H. O. Sachritz.

N. C., Burgaw.—Staves.—Southern Stave & Lumber Co., capital \$70,000, inctpd. by Albert Hermann of Burgaw, E. C. Walter, J. J. G. Molr and others of New York.

N. C., Greensboro.—Furniture.—Morrison-Nesce Furniture Co., capital \$15,000, inctpd. by W. W. Morrison and C. H. McQueen.

N. C., Wilmington.—Boxes.—Southern Box & Lumber Co., capital \$50,000, inctpd. by Giovanni, Threana and Juliette Colucci, all of Brooklyn, N. Y.

Tenn., Memphis.—Panels.—Allen-Eaton Panel Co., capital \$125,000, inctpd. by W. H. Matthews, Joe Lamb, J. W. Eaton and others.

Va., Brock Road.—Nail-keg Staves.—M. Wakeman & Son contemplate installing nail-keg stave-cutting equipment. (See Machinery Wanted—Stave Machinery.)

FIRE DAMAGE

Ala., Orrville.—L. P. Ellis & Sons' dry kiln, planing mill and lumber; loss \$5000.

Ala., Wylam.—Martin & Rountree's 4 dwellings; T. S. Glasgow's 2 dwellings; loss \$15,000.

Ala., Safford.—L. S. Stroud's dwelling; loss \$3000.

Fla., Frostproof.—Frostproof Citrus Packing Co.'s plant; loss \$12,000 to \$14,000.

Ga., Atlanta.—K. Koplin's junk warehouse; loss several thousand dollars.

Ga., Vienna.—A. L. Calhoun's residence; loss \$3000.

Ky., Eminence.—W. I. Banta's residence, barn and outbuildings, 4 mi. from Eminence; loss \$7500.

Ky., Georgetown.—Dr. G. B. Brown's country residence.

Ky., Middlesboro.—T. H. Haynes' distillery; loss \$40,000.

La., New Orleans.—Thos. Gessner Stationery Co.'s building; loss on building, for which A. and C. Denis are agents, \$10,000.

La., New Orleans.—Jamison & Hallows' asphalt plant at Homedale Ave. and Canal Blvd.; loss \$8250.

La., Plaquemine.—Louisiana Cooperage Co.'s plant; loss \$40,000.

Md., Arlington.—Maryland Jockey Club's stables at Pimlico Racetrack; John Brennan, Mgr. of track.

Md., Cumberland.—Co-operative Supply Co.'s building; loss \$25,000; Mike Amadio's building, occupied by J. T. Mahaney, loss \$3500.

Md., Hagerstown.—Joseph Faulders' stables and wagon shed 8 mi. west of Hagerstown; loss several thousand dollars.

Md., Salisbury.—R. H. Trader's store; three dwellings, owned by Mrs. David Wroten; Chas. L. Dickerson's building; James E. Lowe's stable and garage.

Miss., Natchez.—Residences of Mary Rumble, J. C. Monteith and Annie Rumble; loss \$15,000.

N. C., High Point.—High Point Safe & Table Co.'s plant; loss \$33,000.

Tenn., Chattanooga.—Walsh & Weldner Co.'s tower, main assembling shop, blacksmith, erecting and machine shop; estimated loss \$200,000.

Tenn., Chattanooga.—Mountain City Stove & Manufacturing Co.'s store, owned by G. H. Miller; loss \$15,000; Sterchi Bros.' building.

Tenn., Chattanooga.—Tom Desha's residence; Geo. Bowman's residence; Luther Carter's residence, owned by J. V. Crowe; loss \$7500.

Tenn., Fayetteville.—John Wilson's residence.

Tenn., Johnson City.—Dr. W. J. Mathew's residence; loss \$6000.

Tenn., New Providence.—Jas. D. Tyler's residence.

Tex., Ballinger.—City Auto Works; loss \$16,000.

Tex., Celina.—Celina Electric Light & Power Co.'s plant; Celina Water Works plant; total estimated loss, \$20,000.

Tex., Denton.—Building owned by W. B. Graham, Greenville, Tex.; loss \$8000 to \$10,000.

Tex., Lloyd.—R. S. Thomas' cotton gin; loss \$4000.

Tex., Mart.—Mrs. M. E. Caldwell's residence; W. L. McKluney's residence.

Tex., May.—High-school building; loss \$10,000. Address Dist. School Trustees.

Tex., Petrolia.—Wichita Mill & Elevator Co.'s grain elevator; loss \$7500.

Va., Port Royal.—Askins House; C. A. Askins, Prop.

Va., Philomont.—High-school building. Address The Mayor.

Va., Schoolfield.—Frank L. Martin's store; loss \$4000.

W. Va., Affinity.—Pemberton Coal & Coke Co.'s clubhouse.

W. Va., Glen Dale.—Dr. Harriett B. Jones' residence; loss \$6000.

W. Va., Mabscott.—J. F. Burgess' store; M. S. Bower's building.

DAMAGED BY STORM

Tex., Denison.—Denison Motor Car Co.'s building; St. Patrick's Catholic Church (address The Pastor); Sam Davis' store and other buildings; estimated loss \$25,000.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ala., Wylam.—Martin & Rountree will erect two 2-story brick buildings to contain 8 apartments, to replace structures lately noted damaged by fire; gravel roof; wood floors; electric lights; cost \$15,000; D. O. Whildin, Archt., Birmingham.

D. C., Washington.—Boss & Phelps have plans by Landvoigt & Cook, 1403 New York Ave. N. W., Washington, for apartment-house at 320 B St. N. E.; cost \$30,000.

Fla., Miami.—John Scott will erect apartment-house; cost \$7000.

Fla., Miami.—F. M. Brown indefinitely postponed erection of apartment-house; E. A. Nolan, Archt., Miami. (Lately noted.)

Fla., Miami.—J. N. Chamberlain deferred erection of additional stories to Chamberlain Apartments for this year. (Lately noted.)

Ga., Atlanta.—Massell Realty Co. will erect 3-story apartment-house; 9 suites; semi-fireproof; glassed-in sleeping porches, front and back porches; A. F. N. Everett, Archt., Atlanta; cost \$35,000.

Ga., Augusta.—Mrs. J. W. Johnson will erect apartment-house; 2 stories; 40x12 ft.; stucco; 4 suites; Thos. M. Campbell, Archt., Johnson Bldg., Augusta.

Md., Baltimore.—Wm. A. Danner, 529-541 Equitable Bldg., will convert dwelling at Calvert and Chase Sts. into apartment-house.

Md., Eaglesnest Point.—N. P. Chapman, Prest. Round Bay Beach Co., 815 American Bldg., Baltimore, will erect several bungalow apartment-houses.

Mo., Kansas City.—H. C. Adler will erect apartment flat; 24 suites; cost \$25,000.

Mo., Kansas City.—F. B. Ashley will erect two 2-story 6-apartment flats; cost \$18,000.

Tex., Houston.—Miss L. S. Koehler will build store and apartment-house. (See Stores.)

W. Va., Charleston.—Houston G. Young is reported to erect apartment-house.

W. Va., Charleston.—O. J. Morrison will erect apartment-house on Quarrier St.

W. Va., Charleston.—John S. Darst is reported to erect apartment-house on Quarrier St.

W. Va., Charleston.—John M. Miller will erect apartment-house.

W. Va., Welch.—C. D. Brewster lets contract in about 10 days to erect store and apartment building. (See Stores.)

ASSOCIATION AND FRATERNAL

Ga., La Grange.—Hillside, Elm City, Unity Cotton Mills and Unity Spinning Mills will erect Y. M. C. A. building; probably frame; cost \$20,000; Hentz, Reid & Adler, Archts., 332 Candler Bldg., Atlanta; probably let one contract covering building, heating, electric wiring and plumbing; special gymnasium gameroom and other equipment, including furnishings, probably bought separately; date of opening bids not set. Address Fuller E. Calloway, Treas.

Okla., Tulsa.—American Red Cross Society, E. R. Kemp, Chrmn., will erect building.

Tex., Beaumont.—Young Women's Christian Association, Mrs. F. I. Duff, Chrmn., will erect \$60,000 structure; 4 stories; 65x130 ft.; concrete, brick, stone, stucco and hollow tile; steam heat; swimming pool, shower baths, gymnasium, library, cafeteria, dormitory department, etc.; bids opened May 2; construction begins about May 15. (Lately noted.)

W. Va., Weston.—Weston Lodge, Knights of Pythias, will remodel building for lodge and clubrooms; brick; slate roof; wood floors. Address Dann Young.

BANK AND OFFICE

D. C., Washington.—Security Savings & Commercial Bank, 9th and G Sts. N. W., will remodel building; materials include brick, terra-cotta, marble, plate glass and copper; also install bank fixtures and electric wiring.

Fla., Miami.—Joe Vinson will erect office building; cost \$3000.

Fla., Winter Park.—Union State Bank will erect building; 25x66 ft.; brick; Barrett specification roof; tile or marble floor in

lobby; cost \$4000; date of opening bids not set. Address Ed. F. Kezel. (See Machinery Wanted—Bank Equipment; Safe.)

La., Monroe.—Central Savings Bank & Trust Co. is reported to erect 4-story bank building and convert present structure into hotel.

Tex., San Antonio.—Lockwood National Bank, Joseph Muir, Prest., will erect bank building; frame; 14x14 ft.

Va., Norfolk.—Flatiron Square Corporation, W. B. and R. F. Baldwin, representatives, is having plans prepared by Neff & Thompson, Norfolk, for store and office building to replace structure previously noted damaged by fire; fireproof; ornamental terra-cotta exterior; probably 3 stories at first; foundation designed for 12 stories; definite plans not decided.

W. Va., Cabin Creek Junction.—Bank of Cabin Creek will erect building for banking quarters and 2 stores; brick; architect not selected. Address Farmers and Miners' Bank, Charleston, W. Va.

CHURCHES

Fla., St. Augustine.—Trinity Episcopal Church will erect parish hall; brick; tile roof; Fred. A. Henderich, Archt., St. Augustine; bids opened April 30.

Fla., Tampa.—St. James' Episcopal Church, Rev. Irvine E. Georges, rector, will erect building; concrete and red brick; 40x90 ft.; seating capacity 300; tile floors; asbestos shingle roof; fireproof; Fort & Parslow, Archts., Tampa.

Miss., Sumner.—Christian Church will erect building; brick veneer; ordinary construction; tile roof; warm air heat; electric wiring; plans ready about May 15; contract let about June 1; Raymond B. Spencer, Archt., 205-6 New Millsap Bldg., Jackson, Miss.; W. M. Simpson, Chrmn. Building Com., Sumner.

Mo., University (P. O., St. Louis).—Delmar Avenue Baptist Church has plans by A. B. Groves, Stock Exchange Bldg., St. Louis, and will soon call for bids to erect building; 1 story; cost \$50,000.

N. C., Salem (Station, Winston-Salem).—Baptist Church, Rev. S. L. Naff, Pastor, has plans by Humphreys & Faw, Winston-Salem, for building; brick veneer; main auditorium to seat 500 people; basement for primary department of Sunday-school; cost \$20,000; J. A. Baker, Winston-Salem, in charge of construction.

Okla., Checotah.—Methodist Episcopal Church, Rev. W. Lyles Blackburn, Pastor, rejected bid to erect building; cost about \$15,000; is having plans revised by John Gaisford, 408 Goodwyn Institute, Memphis, Tenn., and will call for new bids in about one week. (Noted in March.)

S. C., Easley.—Methodist Church will erect building. Address The Pastor.

S. C., Easley.—First Baptist Church, Rev. H. K. Williams, pastor, will erect building to replace structure previously noted burned; cost \$10,000.

S. C., North.—W. C. Culler, Chrmn., receives bids until May 15 to erect church building; auditorium and 10 classrooms; art glass, pews and other furniture under separate contract; 75x80 ft.; brick; tin roof; wood floors; heating not decided, possibly stoves; John Gaisford, Archt., Memphis, Tenn.; construction begins about June 1. Address Mr. Culler.

Tex., Denton.—Methodist Church will erect \$65,000 building; plans include 3 floors; assembly-room on first floor; rolling partitions between different departments giving seating capacity of 544; second floor for main auditorium, 8 classrooms, etc., with rolling partitions, giving seating capacity of 900; third floor, 14 classrooms, balcony, etc.; 83x144 ft.; total seating capacity 2590 to 3000; vapor steam heat; vacuum cleaning system. Address The Pastor.

Tex., Floydada.—Methodist Church Building Committee receives bids until May 15 to erect brick building; plans and specifications at office Hawk & Parr, Archts., Oklahoma City, Okla., and at office Building Committee.

Tex., Houston.—First Church of God in Christ will erect building; cost \$3600. Address The Pastor.

Tex., San Antonio.—Mexican Presbyterian Church will erect building; brick veneer; plans and specifications at office J. A.

Nichols, Archt., 215 Mason St., San Antonio; bids opened April 30.

Va., Portsmouth.—St. Paul's Catholic Church will erect parish-house for Sisters of Charity; H. A. V. Parker, E. S. Mahoney, Rev. D. J. O'Connell and others, Bldg. Com.

W. Va., Beckley.—Christian Church, Rev. C. E. Rostifer, pastor, rejected all bids to erect building; will revise plans; A. A. Honeywell Co., Archt., Kokomo, Ind. (Previously noted.)

W. Va., Charleston.—Bream Memorial Church, Rev. Samuel M. Glasgow, pastor, will erect building.

W. Va., Charleston.—Lee Street Christian Church, Rev. Sam W. Crabtree, pastor, has plans by W. H. Sinclair for lately noted building; 46x95 ft.; granite block or face brick; Gothic style; roofing and floors not specified; steam heat; indirect electric lighting; cost \$25,000; date opening bids not set; construction begins in 30 to 60 days. Address The Pastor. (See Machinery Wanted—Partition; Church Furniture.)

CITY AND COUNTY

Fla., Clearwater.—Pavilion.—Clearwater Island Bridge Co. will erect pavilion and bathroom in City Island Park for city; 75x186 ft.; 2 stories; 159 bathrooms; cost \$10,000.

Fla., Orlando.—Municipal.—City voted \$10,000 bonds to install fire-alarm system, \$60,000 to build municipal building and \$60,000 to pave streets. (Lately noted.)

Mo., New Madrid.—Jail.—New Madrid County voted \$6500 jail bonds. (See Court-houses.)

Okla., Hobart.—Fair.—City will vote on \$10,000 bonds to acquire site for fair buildings. Address Mayor Hunter.

Okla., Oklahoma City.—Fair.—City plans to erect Liberal Arts Building at State Fair Grounds; cost about \$100,000. Address The Mayor.

Okla., Tulsa.—City Hall.—City, Frank Newkirk, Auditor, City Hall, receives bids until May 24 to erect city hall complete (except elevators); 60x120 ft.; 4 stories; fireproof; asbestos roof; vacuum heat; electric lights generated in building; cost \$150,000; electric elevators, \$6000; plans and specifications obtainable at office Mr. Newkirk as above; Rush, Endicott & Rush, Archts., 236 Unity Bldg., Tulsa. (Previously noted.)

S. C., Charleston.—Stables.—City will probably erect stables on Meeting St.; capacity for 55 mules and horses; probably brick; tin roof; concrete floors; J. H. Dingle, City Engr.

Tenn., Dayton.—City Hall and Auditorium. City plans to issue \$20,000 bonds to build city hall and auditorium. Address The Mayor.

Tex., El Paso.—Fire Station.—City has plans by Braunt & Leibert, El Paso, for central fire station at Overland and Campbell Sts.; 3 stories; 60x70 ft.; reinforced concrete; felt and gravel roof; concrete floors; steam heat; cost \$40,000; bids opened May 3. Address City Clerk. (Lately noted.)

Tex., Sherman.—Fair.—City Commrs. acquired site for coliseum and exhibit building for Red River Valley Fair, provided for in \$50,000 bond issue lately noted voted; Geo. E. Kessler, Landscape Archt., St. Louis, employed to lay out grounds.

W. Va., Charleston.—Jail.—Jefferson County Commrs. have plans by A. B. Mullett & Co., Union Trust Bldg., Washington, D. C., for jail; 2 stories; probably red brick front; stone trim; metal cornice on main building; jail section proper, fireproof; steel grilles; steel bar window guards; shower baths; interior walls of jail section probably lined with light brick. (Previously noted.)

COURTHOUSES

Ark., Helena.—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., receives bids until May 22 for women's toilet-room, etc., in postoffice and courthouse. (See Government and State.)

Mo., New Madrid.—New Madrid County voted \$33,500 courthouse bonds and \$6500 jail bonds. Address County Commrs.

W. Va., Ripley.—Jackson County, C. C. Staats, Clerk, receives bids until May 23 to repair courthouse; different branches of repairs let separately; plans and specifications at offices of L. J. Dean, Archt., Foster Bldg., Huntington, W. Va., and Mr. Staats at Ripley; 3 stories; 50x80 ft.; Bedford stone and reinforced concrete; steel trusses; tin roof; concrete slab and steel tile and marbleoid floors; cost \$50,000; Webster modulating heating system, \$3000. (Previously noted.)

DWELLINGS

Ala., Birmingham.—C. V. W. Bissell will erect 2-story brick-veneer dwelling; cost \$9000.

Ark., Little Rock.—H. T. Auten will erect residence; frame; cost \$3000.

D. C., Washington.—Foxall Heights Co., Union Savings Bank Bldg., has plans by Chas. S. Salin, 3929 Fourteenth St. N. W., Washington, for residence; 24x35 ft.; frame; slate roof; wood floors; hot-water heat; electric lights; construction by owner. (Lately noted.)

D. C., Washington.—Carl H. Smith, 1921 Biltmore St. N. W., will erect 28 two-story dwellings; brick; tin roofs; construction by owner.

D. C., Washington.—M. & T. H. Duckett will erect 2 frame dwellings on Foote St.; cost \$3200; L. D. Hayes, Archt., 4601 Deane Ave. N. E., Washington.

D. C., Washington.—John R. Williams, 1812 R St. N. W., will erect residence in Massachusetts Ave. Heights.

D. C., Washington.—Mrs. L. Furman Day, Minneapolis, Minn., is having plans prepared by Clarke Waggaman, 1211a Connecticut Ave. N. W., Washington, for residence in Massachusetts Ave. Heights.

D. C., Washington.—Thos. A. Jameson, 61 N. Y. Ave. N. W., will erect 4 brick dwellings at 22-28 New York Ave. N. W.; cost \$8000; Edward Hower, Archt., Washington.

Fla., Miami.—George Myers will erect \$3500 residence.

Fla., Miami.—J. S. Maxwell will erect residence; cost \$3000.

Fla., Miami.—Mrs. Carolin F. Wiebush will erect \$3000 residence.

Fla., Miami.—Percy Treadgill will erect 5 dwellings and repair dwelling on De Leon Ave.; cost \$10,500.

Fla., Miami.—W. A. Thebaut will erect 2 dwellings; cost \$3000.

Fla., Miami.—W. T. Carter will erect 3 residences; cost \$3000.

Fla., Miami.—John H. Eastwood, Belleville, N. Y., is reported to erect residence; cost \$45,000; Phillips & Wainwright, representatives, Miami.

Fla., Palmetto.—J. E. Peddrich will erect residence; 2 stories; 30x44 ft.; wood; asphalt shingle roof; hardwood floors on first floor; electric lights; cost \$4000; bids opened about June 15; Fred Kurnodd, Archt., Address Stoltz & McIntosh, Palmetto.

Fla., St. Augustine.—Mrs. A. J. Pellicer will erect residence.

Fla., St. Augustine.—Mason Evans, Youngstown, Ohio, is having plans prepared by Fred A. Henderich, St. Augustine, for residence.

Ga., Atlanta.—Watt Kelly, Jr., will erect residence; 7 rooms and basement; cost \$6000.

Ga., Atlanta.—J. M. Wright will rebuild residence lately noted damaged by fire; 40 ft. square; frame construction; fireproof roof; wood floors; hot-water heat to cost \$800.

Ga., Atlanta.—C. W. Smith will alter and erect addition to building at 148-52 Whiteford Ave.; also erect residence at 79 Iverson St. and one on Marion Ave.; 1 story; frame; cost \$5000.

Ga., Augusta.—J. F. Willis is having plans prepared by Thos. M. Campbell, Johnson Bldg., Augusta, for residence.

Ga., Augusta.—John M. Clark is having plans prepared by Philander P. Scroggs, 852 Broad St., Augusta, for residence; semi-fireproof; stucco; slate or tile roof; hardwood floors; tiled bathrooms; hot-water heat; cost \$6000.

Ga., Augusta.—Henry Prontaut will erect 3 bungalows; cost \$6000.

Ga., Cordele.—D. B. Brown is having plans prepared by P. E. Dennis, American National Bank, Macon, Ga., for residence; cost \$3000.

Ga., Pembroke.—Rev. V. P. Bowers will erect residence; plans in progress.

Ga., Savannah.—Albert H. Stoddard will erect 3 dwellings.

Ga., Savannah.—Parkside Land Co. will erect residence.

Ga., Savannah.—Wm. A. Reed will erect residence.

Ga., Thomson.—John Boyd is having plans prepared by G. Lloyd Preacher, Augusta, for \$20,000 residence.

Ky., Lexington.—W. M. Parrish will erect 2-story 9-room brick residence; cost \$4000.

Ky., Lexington.—Congleton Lumber Co. will erect 2-story 7-room brick residence; cost \$3000.

Ky., Lexington.—Mrs. Wm. Pettit will erect residence; 2 stories; 7 rooms; brick veneer; cost \$4000.

Ky., Louisville.—J. G. Straub will erect veneer dwelling; cost \$3200.

Ky., Louisville.—M. J. Murphy will erect 4 dwellings, 403, 409, 411 Western Parkway and 2612 W. Chestnut St.; brick and tile; 30x50.6 ft.; asphalt shingle roof; wood floors; hot-air heat; cost \$4500 each.

Md., Baltimore.—E. J. Gallagher, 919 Munsey Bldg., will erect thirty-eight 2-story dwellings on Oak St., between 27th and 28th Sts.; brick; 20x39 ft.; estimated cost \$80,000; E. J. Gallagher, Jr., Archt., 919 Munsey Bldg., Baltimore.

Miss., Hattiesburg.—Gabe Hawkins has plans by Robt. E. Lee, Hattiesburg, for bungalow; frame; asphalt shingle roof; cost \$3500; day labor.

Miss., Hattiesburg.—Herman Katz has plans by Robt. E. Lee, Hattiesburg, for bungalow; frame; asphalt shingle roof; plans ready; day labor; owner will furnish materials.

Miss., Jackson.—Wm. H. Pullen will erect residence; frame; plans ready about May 10; cost \$6000; Raymond B. Spencer, Archt., 205-6 New Millsap Bldg., Jackson.

Mo., Kansas City.—C. H. Bush of Evans-Smith Drug Co., will erect dwelling.

Mo., Kansas City.—Mrs. Mary Foster Craig, 3338 Charlotte St., will erect residence in Sunset Hill.

Mo., Kansas City.—Newton M. Wagener, V-P. Yellow Taxicab Co., will erect residence in Sunset Hill.

Mo., Kansas City.—North Terrace Realty Co. will erect 7 stucco-veneer dwellings; cost \$21,000.

Mo., Kansas City.—E. W. Hayes will erect 3 frame dwellings; cost \$5100.

Mo., Kansas City.—Geo. M. Bliss Construction Co. will erect two 1-story frame dwellings; cost \$3800.

Mo., Kansas City.—Cowherd Land Co. will erect three 2-story stucco-veneer dwellings; cost \$13,500.

Mo., Kansas City.—V. B. Wright will erect 2-story stucco-veneer dwelling; cost \$4500.

Mo., Kansas City.—C. A. Price will erect residence; 2 stories; stucco veneer; cost \$3500.

Mo., Kansas City.—Wm. Pitt will erect 2-story brick dwelling; cost \$25,000.

N. C., Albemarle.—Z. V. Moss will erect 2 residences on Hearne Heights.

N. C., Albemarle.—Clarence Ritchie will erect dwelling on South St.

N. C., Albemarle.—E. E. Snuggs will erect 2 residences on North 4th St.

N. C., Greensboro.—I. F. Peebles will erect 7-room residence; cost \$4000.

N. C., Greensboro.—Real Estate & Trust Co. will erect 7-room residence; cost \$3000.

N. C., Greensboro.—W. L. Trotter will erect 10-room residence on Bellemeade Ave.; cost \$2000.

S. C., Aiken.—J. T. Cannon is having plans prepared by Philander P. Scroggs, 852 Broad St., Augusta, for residence; 2 stories; Fisklock tapestry brick; probably wood shingle roof; hot-water heat; tiled bathrooms; cost \$10,000.

S. C., Barnwell.—Edgar Brown will erect \$7000 residence; G. Lloyd Preacher, Archt., Augusta, Ga.

S. C., Columbia.—Shannon Annex Co., J. Sumter Moore, Prest., has plans by Geo. E. Lafaye, Columbia, to erect number of dwellings in Shannon Annex; fireproof roofs; electrical fixtures; furnace heat, etc.

S. C., Edgefield.—R. F. Hill has plans by G. Lloyd Preacher, Augusta, for \$6000 residence.

Tenn., Nashville.—F. M. Carter will erect brick-veneer residence; cost \$3000.

Tex., Beaumont.—Will Patillo will erect residence on Washington Blvd.; 2 stories; cost \$4000.

Tex., Beaumont.—Charles Carroll will erect 7-room residence; cost \$3525.

Tex., El Paso.—A. N. McCrate will erect residence on Reynolds Blvd.; cost \$10,000; also 2 residences on Trowbridge St.; cost \$4500 each.

Tex., El Paso.—C. M. Youngberg will erect 2 bungalows; cost \$3700 each.

Tex., El Paso.—Dr. E. H. Ervin will erect tenement; cost \$7000.

Tex., El Paso.—J. E. Bischoff will erect 2 dwellings; cost \$5000.

Tex., El Paso.—Martin Vasquez will erect residence in Santa Fe Addition; cost \$4000.

Tex., El Paso.—Mayfield Building & Improvement Co. will erect 3 bungalows; cost \$10,450; also warehouse; cost \$4750.

Tex., El Paso.—Spitler Realty & Investment Co. will erect 4 bungalows in Altura Park; cost \$2350 each.

Tex., El Paso.—James G. McNary is reported erecting \$100,000 residence.

Tex., El Paso.—W. J. Rand will erect \$12,500 dwelling.

Tex., El Paso.—W. L. Tooley will erect \$35,000 residence.

Tex., El Paso.—R. L. Collins will erect 3 bungalows; cost \$7000.

Tex., Houston.—W. C. Branum will erect residence; cost \$3500.

Tex., Houston.—J. H. Lyon will erect \$3000 dwelling.

Tex., Houston.—Ed. Prather will erect \$12,000 residence.

Tex., Houston.—Houston Land Corporation will erect dwelling; cost \$4065.

Tex., Houston.—Miss L. S. Kohler will erect store and apartment building. (See Stores.)

Tex., Orange.—Orange Trading Co. will erect number of tenements.

Tex., Orange.—Henry Piaggio, Gulfport, Miss., will erect building to contain 50 rooms for lodging purposes, dining-room and kitchen at shipyard; 60 ft. square; also 30 dwellings; 2 and 3 rooms.

Tex., San Antonio.—Riverside Land Co. will erect 4 dwellings; cost \$4600.

Tex., San Antonio.—A. S. Gault will erect 7-room dwelling; cost \$5000.

Va., Norfolk.—Mrs. S. L. Vance will erect 2-story frame residence; cost \$5500.

Va., Portsmouth.—L. Kootz will soon let contract to erect 6 dwellings.

Va., Richmond.—H. A. Phillips will erect 5 brick dwellings on Plum St.; cost \$12,000.

Va., Richmond.—Muhleman & Kayhoe will erect eight 2-story brick dwellings at Kensington Ave. and Tilden St.; cost \$22,400.

W. Va., Charleston.—Citizens Corporation Incptd. with \$1,000,000 capital by Isaac Loewenstein, Geo. F. Coyle, C. A. Gates, A. L. Walker and others; will erect number dwellings.

GOVERNMENT AND STATE

Ark., Helena.—Toilet Room, Etc.—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., opens bids May 22 for women's toilet-room, etc., in postoffice and courthouse; drawings and specifications at office of custodian, Helena, and Mr. Wetmore, Washington.

Fla., Sanford.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opens bids June 4 to erect postoffice; plans and specifications from custodian of site, Sanford, and Mr. Wetmore, Washington.

Okla., Durant.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opens bids May 31 to erect postoffice building; drawings and specifications from custodian of site, Durant, and Mr. Wetmore, Washington.

Tex., Denton.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., opens bids June 8 to erect postoffice; drawings and specifications from custodian of site, Denton, and Mr. Wetmore, Washington.

Tex., Orange.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., opens bids June 6 to erect postoffice; plans and specifications from custodian of site at Orange, and Mr. Wetmore, Washington.

HOSPITALS, SANITARIUMS, ETC.

Okla., Tulsa.—Sisters of Sorrowful Mother have plans by Wight & Wight, 401 First National Bank Bldg., Kansas City, Mo., for addition to hospital; 4 or 6 stories; estimated cost \$500,000. (Lately noted.)

S. C., Columbia.—Board of Regents State Hospital for Insane, C. Fred Williams, Supt., Columbia, receives bids until May 9 for installing plumbing and tiled floors and wainscot in north building; plans and specifications at office Geo. E. Lafaye, Archt., Columbia.

S. C., State Park.—State Board of Health of South Carolina, Palmetto Bldg., Columbia, S. C., opens bids May 15 to erect buildings for tuberculosis hospital for State Sanatorium; 2 wards 30x100 ft.; infirmary 30x200 ft.; dining-room, kitchen and pantry 30x90 ft.; frame; brick foundations and basement; cypress shingle roof; wood floors; cost \$35,000; direct steam heat, low pressure, \$3500; kitchen equipment, screens for all buildings, heating and plumbing under separate contract; Wilson & Sompayrac, Archts., Palmetto Bldg., Columbia, S. C., may be addressed. (Lately noted.)

HOTELS

Fla., Miami.—Dr. Luther T. Townsend and W. S. Witham will erect 4-story concrete apartment hotel.

Fla., Miami.—Hickson & Whitner will erect 3 or 4 stories to Hippodrome Bldg., to be used for hotel; plans being prepared.

Fla., Miami.—Mrs. E. C. McAllister will erect 4-story building; first and second floors to be used for restaurant to seat 300 people; third and fourth for hotel with 34 rooms and connecting baths, to be used in connection with Hotel McAllister.

Fla., Miami.—Owner of Hotel Plaza will erect 5-story addition; 40x135 ft.

Fla., Sarasota.—Mayor Harry L. Higel will rebuild Higeburst Hotel to replace burned structure; 3 stories; surrounded by porches on first and second floors; built in shape of "T"; fireproof; concrete blocks; lobby 66 ft. wide; dining-room 32x72 ft.; 26 rooms on 2 upper floors with private bath; concrete apartment-house, 30x100 ft., and 12 bungalows in connection with hotel; apartment-house to contain 30 rooms and 4 baths; bungalows to be frame; three each of 1, 2, 3 and 4 rooms; dancing and picnic pavilion in center of group, 42x84 ft., with dancing floor, 66x30 ft., surrounded by platform; bathhouses on either side of pavilion containing 50 rooms and 3 shower baths each; plans by and construction under supervision of Geo. L. Lysat. (Lately noted.)

Fla., St. Petersburg.—Mrs. M. A. Moon has plans by Henry H. Du Pont, St. Petersburg, for annex to Poinsettia Hotel; 3 stories; 39 guestrooms with bath; fireproof; reinforced concrete, frame and tile; Spanish tile floors on first floor; observation tower on roof. (Mrs. W. J. Warrington previously noted to make improvements.)

Ga., Augusta.—J. P. Wood and associates acquired Mount St. Joseph School and will remodel for hotel; Elbert Jackson, associated with Wm. Henry Deacy, New York, Archt.

Ga., Macon.—Mrs. L. J. Smith will erect 5-story 72-room hotel; running ice-water in each room; brick; lobby finished in marble; cost \$60,000; completion probably by Oct. 1; Hagg & Shelverton, Archts., Macon; will be leased to Terminal Hotel Co., Atlanta.

La., Monroe.—Central Savings Bank & Trust Co. is reported to convert building into hotel. (See Bank and Office.)

S. C., Gaffney.—Gaffney Hotel Co. opens bids May 11 to erect \$60,000 hotel; 40x110 ft.; 4 stories; fireproof; brick, steel and ordinary construction; Barrett roof; electric lights; steam heat; electric freight and passenger elevators; Louis H. Asbury, Archt., Charlotte, N. C. (Lately noted.)

Va., Suffolk.—Nansemond Hotel is having plans prepared by Rossel Edward Mitchell, Paul-Gale-Greenwood Bldg., Norfolk, for hotel; 4 stories; fireproof; steam heat; electric lights and elevators; cost \$150,000. (Lately incorrectly noted as Va., Norfolk.)

W. Va., Creston.—G. E. Rader will erect store and hotel building. (See Stores.)

MISCELLANEOUS

Ga., Atlanta.—Exhibition Building.—Southern Fair Association has plans by Edwards & Sayward, Archts., 633 Candler Bldg., Atlanta, for exhibition building; bids opened May 2.

Ga., Gainesville.—Gymnasium.—H. H. Dean, J. C. Pruitt, J. H. Hosch and others, Conn., are considering preliminary plans for proposed gymnasium.

Miss., Corinth.—Barn.—B. F. Liddon will erect livery barn for use by Jones Bros.; 1 story and basement; brick and concrete.

N. C., Marion.—Lyceum.—Clinchfield Manufacturing Co. will erect \$15,000 lyceum.

Va., Fort Richardson.—Clubhouse.—Columbus Club, Dr. J. Rozier Biggs, Prest., 213 Eleventh St. S. W., Washington, D. C., will erect 2 additional wings, porch and otherwise improve clubhouse; A. Hamilton Wilson, Archt., Washington Loan & Trust Bldg., Washington. (Lately noted.)

RAILWAY STATIONS, SHEDS, ETC.

Ga., Bonaire.—See Ga., Colon.

Ga., Colon.—Georgia Southern & Florida Ry., J. A. Griffin, Engr. M. W. & S., Macon, Ga., will erect freight and passenger sta-

tions at Colon, Cycloneta, Mayday and Moniac, Ga.; passenger waiting station at Second Dist. Agricultural College, near Fifton, and section-houses at Bonaire and Pinehurst, Ga.

Ga., Cycloneta.—See Ga., Colon.

Ga., Macon.—C. K. Lawrence, Chief Engr., Central of Georgia Ry Co., Savannah, Ga., states no plans have been prepared in his office for warehouse lately noted.

Ga., Mayday.—See Ga., Colon.

Ga., Moniac.—See Ga., Colon.

Ga., Pinehurst.—See Ga., Colon.

Ga., Tifton.—See Ga., Colon.

Ky., Paducah.—Illinois Central R. R. Co., A. S. Baldwin, Chief Engr., Chicago, is reported to expend \$100,000 for depot and improvement of shops.

SCHOOLS

Ala., Selma.—City votes May 15 on \$40,000 public school bonds. Address The Mayor.

Ark., Little Rock.—Shorter College Trustees will erect dormitory for girls; cost \$33,000.

Ala., Mobile.—Mobile County Board of Education, S. S. Murphy, Supt., will erect 4-room rural schools at total expenditure of \$146,000; plans by Geo. B. Rodgers, Van Antwerp Bldg., Mobile, provide for new schools at following points: Crichton, Whistler, Bayou la Batre, Theodore, Barker-Turnerville, Wilmer, Semmes, Creola-Salco-Saraland-Axis, Dog River, Tanner-Williams, Indian Springs, Blankenship, Fellowship and Booths; additions or repairs contemplated at following schools: Grand Bay, Toulminville, Citronelle, Bakers-Wheeler-Maples, Spring Hill, New and Old Georgetown, Oak Grove, Mt. Vernon, Shady Grove-Goff, Lloyd-Newsome, Gulfcrest, Byrds, Chunchula, Calvert, Union, Hickory Grove, Eight Mile, Rowell's, St. Elmo, Heron Bay, Delchamps, Smithtown-Mauville, Prichard, Davis, Dawes and Dauphin Island. (Previously noted.)

Ark., Rich Mountain.—School Board will erect lately noted school building; probably 2 rooms; frame; metal roof; wood floors; will call for bids about June 1; cost \$2000. Address W. H. Rogers; also receives plans for 2-room school. (See Machinery Wanted—Heating Plant.)

D. C., Washington.—Holy Trinity Catholic Church, 36th St. between N and O Sts. N. W., will erect school at 36th and O Sts.; brick; slate roof; stone and marble trimmings. Address The Pastor.

Fla., Arcadia.—Board of Public Instruction opens bids May 9 to erect lately noted grammar school; 10 rooms; semi-fireproof; brick walls; metal lathe on ceilings; composition roof; electric lights; A. C. Price, Archt., J. Rice Scott, Engr., Sarasota and Bartow. Fla. (See Machinery Wanted—Heating Plant; Flooring.)

Fla., De Funiak Springs.—Thomas Industrial Institute will erect \$22,000 administration building.

Fla., Groveland.—Groveland School Dist. has plans by W. H. Carr, Leesburg, Fla., for school and auditorium; wood; stucco finish; cypress or metal shingle roof; finished pine timber floors; probably stoves; cost \$6500; bids opened June 4. Address all bids to Wm. T. Kennedy, Supt. of Public Instruction, Umatilla, Fla. (Lately noted.)

Fla., Haines City.—Polk County Board of Public Instruction, Bartow, Fla., engaged A. C. Price, Archt., and J. Rice Scott, Engr., Sarasota and Bartow, Fla., to prepare plans for school, and will call for bids at once; cost \$10,000. (Lately noted.)

Fla., Ocala.—Board of Commrs. State Institutions, Tallahassee, has plans by W. B. Talley and H. F. Saxelbye, Room 338, St. James Bldg., Jacksonville, for school; about 42x70 ft.; brick walls; tile roof; wood joist floor construction; steam heat; electric lights; cost \$18,000; bids opened May 15. Address Board of Commrs. as above. (Lately noted.)

Fla., Vero.—Board of Public Instruction of St. Lucie County, J. W. Hodge, Sec., Fort Pierce, Fla., receives bids until May 16 to erect high-school building; reinforced concrete or brick, stuccoed with white cement and coquina shell; oriental brick and tile trim; overhanging tile roof; 57x132 ft.; auditorium to seat 400; 8 classrooms; basement to contain heating plant; steam heat; casement simplex windows; cost \$25,000; plans and specifications at office Mark & Sheftall, Archts., Jacksonville, Fla. (Lately noted.)

Ga., Fayetteville.—Fayetteville School Dist. defeated \$20,000 school bonds; W. J. Stell, Trustee. (Lately noted.)

Ga., Millen.—School Board is having plans prepared by G. Loyd Preacher, Augusta, Ga., for \$30,000 high school.

La., Kaplan.—Vermillion Parish School Board ordered election May 29 on \$20,000 bonds to erect school building.

La., Slaughter.—E. Felicinia Parish School Board, E. R. Waller, Supt. of Education, Clinton, La., has plans by J. W. Smith, Monroe, La., for high school; 2 stories; brick; flues; 71x58 ft.; cost \$18,000.

Miss. Cary.—Trustees Cary Rural Separate School Dist., H. S. Goodman, Secy., receives bids until May 14 to erect school.

Miss., Magnolia.—Board of Supervisors will issue \$35,000 bonds to erect and equip county agricultural high school.

Miss., Moorhead.—Sunflower County Agricultural High School will erect manual-training building to replace structure lately noted damaged by fire; 60x60 ft.; brick; asphalt shingle roof; concrete floors; cost \$5000; electric lights, \$1500; architect not selected. Address Dr. U. S. Wasson, Secy.

Miss., Purvis.—Lamar County Supervisors will let contract May 5 to erect administration and academic building for Agricultural High School; brick; plans and specifications at office J. J. Massey, Purvis. (Lately noted to issue \$20,000 bonds to erect structure.)

Miss., Sardis.—Town will erect school; brick; ordinary construction; composition roof; steam heat; electric wiring; plans ready about May 15; contract let about June 1; cost \$33,000. Address Raymond B. Spencer, Archt., 205-6 New Millap Bldg., Jackson, Miss.

Mo., Rock Creek (R. D. from Valley Park).—Rock Creek School Dist. voted \$4000 bonds to erect 2-room school building. Address Dist. School Trustees.

N. C., Charlotte.—City voted \$250,000 school bonds, to be expended as follows: Erect high-school building, \$150,000; South School repairs, improvements and heating plant, \$25,000; Third Ward building, \$25,000; addition to North Charlotte School, \$6000; addition to Elizabeth School, \$4000; addition to Wesley Heights School, \$4000; addition to Fourth Ward School, \$4000; addition to Dilworth School, \$4000; negro schools, \$28,000; H. P. Harding, Supt. City Schools. (Lately noted.)

N. C., Greenville.—School Dist. of Beaver Dam Township of Pitt County will erect consolidated school. Address Pitt County Commrs.

N. C., Knap of Reeds.—School Committee (W. A. L. Veasey, Chas. J. Roberts and W. L. Umstead, Sten. N. C.) has plans by Chas. C. Hook, Charlotte, N. C., for school; 4 classrooms, auditorium, etc.; brick or wood; metal roof; wood floors; wood furnace; bids opened about May 10; construction begins about May 20; cost \$5500. (Lately noted.)

N. C., Smithville.—Smithville School Dist. voted \$17,500 bonds to erect high school; Harry Gordon, Secy. Board of Education. (Lately noted.)

N. C., Wilson.—Wilson Graded School Dist. voted \$150,000 school bonds; Chas. L. Coons, Supt. of Schools. (Lately noted.)

Okla., Edmund.—Board of Education has plans by Leonard H. Bailey, 616 Colcord Bldg., Oklahoma City, for high school; 60x80 ft.; brick and stone; composition roof; cement and wood floors; cost \$16,000; bids opened May 5; consider heating plant later. (Lately noted.)

Okla., Guymon.—School Dist. No. 8 of Guymon has plans by Hawk & Parr, Oklahoma City, for high school; fireproof; brick and stone cornice; roof concrete slabs or concrete mixture; concrete floors; city electric lights; cost \$40,000; date opening bids not set. Address C. A. Nash, Guymon. (Lately noted.)

Okla., Norman.—City plans to issue \$300,000 bonds to erect schools. Address The Mayor.

Okla., Porum.—Porum School Dist. voted \$3000 bonds to erect school building to replace burned structure. Address Dist. School Trustees. (Lately noted.)

Okla., Stillwater.—State Board of Agriculture will erect science hall, armory and gymnasium at State College; estimated cost \$200,000; F. C. Biggin, Archt., care of college.

Okla., Tulsa.—Board of Education, H. C. McClure, Pres., engaged Van Sicken & Collignon, 323 Iowa Bldg., Tulsa, to prepare plans for addition to Riverview School, consisting of auditorium and 3 or 4 units; latter to be erected on 1-story plan; also engaged George Winkler, 412 Palace Bldg., Tulsa, to prepare plans for several school buildings and athletic field on south side school site in Maple Ridge, 1 or 2 stories, with amphitheater or stadium in addition; athletic field to include straight-away track, 1/6-mi. oval track and football field. (Lately noted.)

S. C., Columbia.—School Dist. No. 23 votes May 8 on \$10,000 bonds to erect brick school building; Lee Muller, Chas. D. Wilson and Brooks Brown are interested.

S. C., Montmorenci.—Montmorenci School Dist. No. 35 votes May 10 on \$6000 bonds to erect school building; John Barton, J. E. Schuler, Jesse Parker, Trustees.

S. C., Trenton.—School Board will erect \$15,000 high school; G. Lloyd Preacher, Archt., Augusta, Ga.

S. C., Ulmer.—John F. Weekly, Chrmn., Ulmer, receives bids until May 10 to erect high school building; plans and specifications obtainable at office G. C. Best, Ulmer, and Mr. Weekly.

S. C., Yorkville.—Town Council and Yorkville Graded School Dist. Trustees are considering calling election on \$30,000 bonds to repair present school building or erect and equip another structure.

Tex., Amarillo.—Amarillo Independent School Dist. votes May 5 on \$15,000 bonds to erect and equip public school. Address District School Trustees.

Tex., Brownwood.—Daniel Baker College plans to erect \$100,000 building.

Tex., Calvert.—City sold \$60,000 school bonds. Address Board of Education. (Lately noted.)

Tex., Hearne.—Trustees have plans by C. H. Page & Bro., Austin, for \$50,000 high school. (Lately noted.)

Tex., Leesville.—Leesville School Dist. No. 23 voted \$3000 bonds to erect brick school. Address Dist. School Trustees.

Tex., May.—School Trustees will rebuild high-school building noted damaged by fire at loss \$10,000.

Tex., Sasamco.—Sasamco Independent School Dist. Trustees are receiving bids to erect school; plans at offices Gus Ermler, Sasamco, and Leo M. J. Dielman, Archt., San Antonio.

Tex., Sherman.—School Board petitioned city for additional bond issue of \$30,000 to complete and furnish high school under construction.

Tex., Slaton.—Slaton School Dist. voted \$10,000 bonds to erect and equip school building. Address Dist. School Trustees.

Tex., Sour Lake.—Sour Lake Independent School Dist. has plans for building for which \$80,000 bonds were voted; 2 stories; 20 rooms; fireproof; brick; steam heat; vacuum-cleaning system; telephone connections in each room; program bells; lockers for each pupil; gymnasium and manual-training department. (Lately noted.)

Va., Lynchburg.—Brookville Dist. School Board will erect school building on Fort Hill, enlarge Peakland and Rivermont schools, erect Megginson school, etc.

W. Va., Clay.—Henry Ind. Dist. defeated \$9000 bonds to erect school; B. C. Eakle, Secy. (Lately noted.)

STORES

D. C., Washington.—August Plugge, 1030 13th St. N. W., will erect store building at 802 9th St. N. W.; 2 stories with cellar; brick; slag roof.

Fla., Miami.—Mrs. Harriet Beers will expend \$3500 for repairs to building at Point View.

Ga., Hawkinsville.—Henry & Pritchett will erect store building; 25x67 ft.; brick; metal roof; wood floors; cost \$3500; electric lights, \$125; plans and construction by owner. (Lately noted.)

Ky., Lexington.—C. H. Bower will erect store building to be occupied by National Biscuit Co.; brick; 1 story; cost \$6000; Manley & Young, Archts., Lexington.

Ky., Lexington.—J. Arthur Graves will expend \$3800 to remodel building on North Limestone St.

Ky., Louisville.—Walnut Street Land Co. will erect 7 brick stores; cost \$5000.

Md., Baltimore.—Thomas O'Neill has plans by Baldwin & Pennington, 601-07 Professional Bldg., Baltimore, for 2-story store building at 336 N. Charles St.; 21x151 ft.; following contractors are estimating: Consolidated Engineering Co., 243-255 Calvert Bldg.; R. H. Frazier & Son, 224 W. Mulberry St.; Morrow Bros., Fidelity Bldg.; H. D. Watts Co., Garrett Bldg.; J. J. O'Connor, 427 E. Lexington St.; Edward Brady & Sons, 1113 Cathedral St.; J. Henry Miller, Inc., Eutaw and Franklin Sts.; Monmonier & Sorrell, 1711-13 McCulloh St.; Cogswell-Koether Co., 406 Park Ave.; Singer-Pentz Co., Equitable Bldg.; all of Baltimore, and A. H. Putts.

Mo., St. Louis.—F. Demko will erect theater and store building. (See Theaters.)

N. C., Greensboro.—W. D. McAdoo will expend \$5000 to construct roof over first floor of burned building and remodel for stores.

Tex., Beaumont.—T. S. Reed Grocery Co. will erect 1-story brick addition to rear of present structure; cost \$3000.

Tex., Dallas.—Alex. Camp will erect 4-story brick building to be leased by Pennsylvania Rubber Co.; 40x100 ft., with 10-ft. "L."

Tex., El Paso.—J. E. Woodyard, Jr., will erect 1-story addition to building; cost \$20,000.

Tex., Houston.—Miss L. S. Koehler will erect 3-story store and apartment building; cost \$32,000.

Tex., San Angelo.—Clint Pinson has plans by Oscar Ruffini, San Angelo, for improvements and 2nd story to store building for Cox-Rushing Co.; 50x110 ft.; brick; tar and gravel roof; wood floors; cost \$10,000; elevator \$2500; construction begins about May 15. (Lately noted.)

Tex., San Antonio.—Alexander Joske is receiving bids to erect business and theater building. (See Theaters.)

Tex., Thorndale.—J. W. Garner will erect brick business building.

Tex., San Antonio.—Wolfe Jaffe will erect addition to building on 4th St.; cost \$3000.

Tex., Waco.—J. R. Milam receives bids until May 7 for additions and alterations to Cooper Grocery Co. building; plans and specifications obtainable at office Milton W. Scott & Co., Archts., Waco.

Va., Norfolk.—Flatiron Square Corporation has plans for store and office building. (See Bank and Office.)

Va., Richmond.—Charles McCurdy will erect frame building 1323 North Ave.; cost \$4500.

Va., Richmond.—Regina Nelson will expend \$6000 to repair brick store building.

W. Va., Bluefield.—Samuel L. Matz has plans for theater and arcade building. (See Theaters.)

W. Va., Charleston.—W. B. Geary, Prest. Diamond Shoe & Garment Co., acquired Shrewsbury Block on Capitol St. and will expend \$50,000 to \$100,000 to remodel.

W. Va., Creston.—G. E. Rader will erect store and hotel building to replace structure lately noted damaged by fire.

W. Va., Welch.—C. D. Brewster will let contract in about 10 days to erect store and apartment building; 80x103 ft.; annex 68x68 ft.; brick walls; Security wide welt roof; reinforced concrete, joist and hardwood floor construction; hot-water heat; electric lights; cost \$40,000; Pedigo & Garry, Archts., Bluefield, W. Va. (Lately noted.)

THEATERS

Mo., St. Louis.—F. Demko has plans by Kennerly & Stiegemeier, 505 Benolst Bldg., St. Louis, for theater and store building; 2 stories; 74x120 ft.; cost about \$50,000; will soon call for bids.

Tex., San Antonio.—B. L. Nix will expend \$8000 to remodel theater building.

Tex., San Antonio.—Alexander Joske is receiving bids to erect theater and business building; plans at office Leo M. J. Dielman, Archt., San Antonio.

Va., Hampton.—W. W. Scott will erect theater on West Queen St.; brick; tar and gravel roof; wood floors; steam heat; electric lights; seating capacity 1200; cost \$3000.

W. Va., Bluefield.—Samuel L. Matz has plans by C. C. & E. A. Weber, Citizens' National Bank Bldg., Cincinnati, for arcade and theater building; steel and brick; fireproof; concrete floors; hot-water heat; electric and gas lights; Pedigo & Garry, Supervising Archts., Bluefield. (Previously noted.)

WAREHOUSES

Ky., Maysville.—R. J. Reynolds Tobacco Co. is having plans prepared by J. E. Sirrine, Greenville, S. C., for warehouse.

Md., Baltimore.—Baltimore Storage Co. is having plans prepared by Wyatt & Nolting, 1012-15 Keyser Bldg., Baltimore, for warehouse; several stories; fireproof.

Tex., El Paso.—Mayfield Building & Improvement Co. will erect warehouse. (See Dwellings.)

Tex., Hampshire.—C. T. Helsig has plans by Babin & Beck, Beaumont, Tex., for rice warehouse; 60x250 ft.; cost \$5500.

W. Va., Bluefield.—Bluefield Telephone Co. will erect warehouse; concrete and steel; 3 stories; cost about \$15,000; Pedigo & Garry, Archts., Bluefield.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Ala., Bessemer.—Dr. Taylor let contract to W. L. Coston, Bessemer, to erect apartment-house; 7 stories.

Ga., Atlanta.—S. D. Hewlett let contract to C. Shelverton, Atlanta, to erect 2-story frame and stucco double apartment; cost \$9900. Address contractor.

Md., Baltimore.—De Soto Apartment Co., Union Trust Bldg., let contract to H. D. Watts Co., 906 Garrett Bldg., Baltimore, to erect apartment-house at Charles and 35th Sts.; 63x106 ft.; 4 stories; concrete frame; slag roof; terra-cotta arch floor construction; cement sidewalks; cost \$90,000; steam heat about \$7500; electric lighting about \$600; Parker, Thomas & Rice, Architects, Union Trust Bldg., Baltimore. (Lately noted.)

Mo., Kansas City.—Churchill A. White let contract to L. M. Rowland, Kansas City, to erect two 6-apartment flats; cost \$24,000.

ASSOCIATION AND FRATERNAL

Fla., Lakeland.—Baker & Holmes Co., Tampa, Fla., has contract for brick (Legg Brick Rough Surface Dixie Knap, manufactured by Legg Brick Co., Calhoun, Ga.) and for Johns-Manville asbestos roof, for B. P. O. E. building for which Logan Bros., Tampa, have general contract; 3 stories; 8x100 ft.; brick and stone; wood floors; gas heat; electric elevators; cost \$44,000. (Lately noted.)

BANK AND OFFICE

Fla., Vero.—L. A. Moeller let contract to J. H. Crosby, Vero, to erect office building; 50x73 ft.; cement and brick; granite slate roof; wood floors; all contracts let. (Lately noted under Stores.)

Ky., Lexington.—John Skain and Joseph M. Skain Estate let contract to Combs Lumber Co., Lexington, to erect 3-story office and store building; stone foundations; pressed brick; composition roof; first floor for 2 storerooms; offices above; cost \$15,000; John V. Moore, Archt., Lexington. (Previously noted.)

Okla., Tulsa.—Cosden & Co. let contract to George A. Fuller Construction Co., Kansas City, Mo., to erect office building; 60x100 ft.; 15 stories and basement; reinforced concrete frame; terra-cotta exterior; tile roof; floor construction reinforced concrete, two-way reinforcement; vacuum steam heat with temperature regulation; electric lights from local company; American Luxfer prism vault lights; high-speed noiseless-gear elevators; cost \$500,000; Henry F. Hoyt, Archt., 315 E. 10th St., Kansas City. (Lately noted.)

Tex., Waco.—Edward Rotan let contract to B. F. Baker, Waco, to erect office building at 5th and Austin Sts.; 2 stories; 50x100 ft.; gravel roof; concrete floors; gas steam heat; cost \$20,000; Ross & Cason, Architects, Waco. (Lately noted under Stores.)

CHURCHES

Ga., Shellman.—Baptist Church let contract to Shields, Geise & Rawlings, Dawson, Ga., to erect Sunday-school annex; brick; 2 stories; metal roof; 10 classrooms; cost \$5000.

Ga., Shellman.—Methodist Church let contract to Shields, Geise & Rawlings, Dawson, Ga., to erect building; cost \$12,000; T. F. Lockwood, Archt., Murrah Bldg., Columbus, Ga. (Lately noted.)

Okla., Hillsdale.—First Congregational Church has plans by and let contract to The Mauk Co., Hutchinson, Kan., to erect church and Sunday-school; 44x57 ft.; concrete foundation; brick and hollow tile walls; composition shingle roof; basement floor, concrete; 1st floor and balconies, pine; electric wiring; cost \$7000; 2 furnaces, \$400; concrete sidewalk. (Lately noted.)

Tenn., Clarksville.—Trinity Episcopal Church let contract to D. M. Crawford & Co., Memphis, to erect John B. Cannon parish-house.

Tex., Hallettsville.—Christian Science Church let contract to A. V. C. Moore to erect \$3500 brick church building.

CITY AND COUNTY

La., Abbeville.—Jail.—Police Jury of Vermillion Parish let contract to Southern Structural Steel Co., San Antonio, Tex., to repair jail; brick and steel work; concrete floors; steam heat; cost \$7000. (Previously noted.)

La., New Orleans.—Office, Garage and Warehouse.—Board of Control New Basin Canal and Shell Roads let contract to H. W. Bond & Bro., Dealers' Exchange, New Orleans, to erect office, garage and warehouse on South Rampart St.; 95x24x14 ft.; brick; Barrett composition 4-ply 5-year guaranteed roof; concrete and wood floors; cost \$5500; Rathbone De Buys, Archt., Hibernia Bank Bldg., New Orleans. (Previously noted.)

N. C., Charlotte.—Fire Station.—City let contract to R. L. Goode, Charlotte, to erect fire station on Louise Ave.; 23x50 ft.; 2 stories; limestone trim.

Tenn., Knoxville.—Fire Halls.—City let contract to J. M. Stair & Son, Knoxville, to erect fire halls at Lonsdale and Oakwood at \$5151 each; also let contract to Engert-Long Plumbing Co., Knoxville, at \$715.38 each for plumbing and heating fixtures; plans by Brackney & Broome, Architects, Knoxville, call for 1-story; brick; asphalt, shingle and tin roofs; 31x53 ft.; concrete on solid earth and wood on joist floor construction; 1-pipe steam heat; city electric lights. (Lately noted.)

Tex., Wichita Falls.—Library.—City let contract to Taylor Bros., Wichita Falls, to erect public library (donated by J. A. Kemp); 64x52.6 ft.; brick; Barrett specification roof; wood floors; cost \$23,000; vapor heat, \$2425; plumbing, \$1492; electric lights, \$650; Madorie & Field, Architects, Wichita Falls, and Kansas City, Mo. Address contractors. (Other contracts lately noted.)

DWELLINGS

Fla., Daytona.—H. P. Young, Brooklyn, N. Y., has plans by and let contract to S. H. Cove, Daytona, to remodel dwelling.

Fla., Lakeland.—Dr. G. C. Barton let contract to E. C. Angell, Lakeland, to erect residence; buff brick; cost \$6000.

Fla., Palmetto.—C. A. McIntosh let contract to Stoltz & McIntosh, Palmetto, to erect residence; 1 story; 35x48 ft.; wood, brick columns; Neponset roof; cement porch floor; hardwood floors inside; electric lights; cost \$3200; bids opened about June 15. Address owner.

Fla., St. Augustine.—J. A. Lew let contract to C. B. Shugart, St. Augustine, to erect dwelling on Almers St.; cottage type.

Fla., St. Augustine.—Mrs. John Andreu let contract to C. B. Shugart, St. Augustine, to erect 2 bungalows; 5 rooms.

Fla., West Palm Beach.—L. S. Jones, New York, let contract to W. E. Poland, West Palm Beach, to erect residence; cost \$10,000.

Fla., West Palm Beach.—Miss Henry Harris, Woonsocket, R. I., let contract to W. E. Poland, West Palm Beach, to erect 2-story stucco \$10,000 residence.

Ga., Athens.—Mrs. Jas. A. Lewis let contract to Jesse C. McCraney, Athens, to erect 4 bungalows; 5 rooms; cost \$5000.

Ga., Augusta.—W. H. Barrett let contract to Palmer-Spivey Construction Co., Augusta, to remodel residence; cost \$3000; frame; will stucco; G. Lloyd Preacher, Archt., Augusta.

Md., Baltimore.—Raymond G. Sheppard let contract to J. F. Hardy, 4200 Groveland Ave., Baltimore, to erect residence at Garrison Blvd. and Hawthorn Ave.; 40x26 ft., with back building 13x25 ft.; hollow tile; slate roof; wood floors; electric lights; cost \$6000; hot-water heat, \$1000. (Lately noted.)

S. C., Greenwood.—W. C. Strawhorn let contract to Mauldin & Chapman, Greenwood, to erect residence; Summer & Hemphill, Architects, Greenwood.

S. C., Greenwood.—Wm. Lomax let contract to C. E. Wilkinson, Greenwood, to erect residence; Summer & Hemphill, Architects, Greenwood.

Tex., Beaumont.—Burt Hoopes has plans by C. A. Logan and let contract to J. E. Heartfield, both of Beaumont, to erect 6 bungalows; cost \$12,000.

Tex., Beaumont.—E. T. Fuller let contract to James Wellman, Beaumont, to erect residence; 9 rooms; exterior finished in white stucco trimmed with red brick and tile; tiled porch floors; red clay tile or Imperial English style shingle roof; cost \$7500; Mauer, Knoblock & Simank, Architects, Beaumont.

Tex., Beaumont.—Mrs. Lula Little let contract to J. E. Heartfield, Beaumont, to erect rooming and boarding house; 2 stories; frame and brick; wood floors; cypress shingle roof; stove and fireplaces; knob and tube lighting system; Babu & Beck, Architects, Beaumont; all materials purchased. (Lately noted.)

Tex., Beaumont.—C. A. Logan, Beaumont, has contract to erect residence on Seventh St., between Calder St. and Broadway; 2 stories; 7 rooms; stucco on metal lath; shingle roof; oak and pine floors; cost \$3500; L. H. Parish, Archt., Beaumont. Address Geo. T. Broun, 305 Perlestein Bldg., Beaumont.

Tex., El Paso.—B. F. Fillmore let contract through W. H. Austin agency to erect \$9000 dwelling.

Tex., El Paso.—E. C. Wade, Jr., let contract to erect 2 bungalows on Trowbridge St.; cost \$4500 each.

Tex., El Paso.—J. J. Pruett let contract to Phoenix-El Paso Building Co., El Paso, to erect residence; 2 stories; 9 rooms; garage and servants' quarters; cost \$9500.

W. Va., Huntington.—Thos. W. Harvey let contract to W. G. Sharkey, 804-12 Fourth Ave., Huntington, to erect residence; moss green sandstone backed with hollow tile. (Noted in Feb.)

W. Va., Huntington.—Paul Hardy let contract to W. G. Sharkey, 804-12 Fourth Ave., Huntington, to erect residence; moss green sandstone backed with hollow tile. (Noted in Feb.)

GOVERNMENT AND STATE

Ark., Little Rock.—Infirmary.—State let contract to erect annex to Confederate Home Infirmary. (See Hospitals.)

Tex., Cameron.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract to W. D. Lovell, 1415 8th St. S. E., Minneapolis, Minn., to erect postoffice; 1 story; 45x72 ft.; brick; composition roof; reinforced concrete floors; cost \$35,000; one-pipe steam heating system, \$3000; electric lighting, \$1500. Address contractor. (Lately noted.)

HOSPITALS, SANITARIUMS, ETC.

Ark., Little Rock.—State let contract at \$9780, exclusive of wiring, heating and plumbing, to J. P. Williams, Parquet, Ark., to erect annex to Confederate Home Infirmary; also let contract for painting to Lawley & Rowe, Little Rock, at \$985.

Mo., Kansas City.—Grace Hospital Corporation let contract to L. Crosby & Son Construction Co., Massachusetts Bldg., Kansas City, to erect hospital; fireproof; 5 stories and basement; provision for 3 additional stories; brick and concrete; 40x108 ft.; cost \$135,000; will also remodel apartment building for nurses' home; W. Hilton Smith, Archt., Massachusetts Bldg., Kansas City. (Previously noted.)

N. C., Asheville.—Appalachian Hall, Inc., has plans by and let contract to Walter Dermitt, Asheville, to erect two 15-room cottages for sanatorium for treatment of nervous diseases; tile, cement and wood; asbestos shingle roof; cement and hardwood floors; hot-water heat; city lighting; cost \$17,000; Drs. Beall and Smith, Physicians in charge. (Lately noted.)

Tex., Ballinger.—Halley & Love Sanitarium let contract to erect 3d-story addition; 30 rooms.

Tex., Orange.—Dr. J. P. Hewson has plans by and let contract to J. M. Pearson, Orange, to erect sanitarium; 42x60 ft.; frame; shingle roof; double wood floors; cost \$9000 to \$7000. (Lately noted.)

HOTELS

Fla., Miami.—Dade County Land & Investment Co. let contract to F. P. Helfner, Miami, to erect hotel. (Lately noted.)

Fla., Fort Pierce.—New Fort Pierce Hotel Co. let contract to J. Simeneau to erect hotel; plans by F. H. Trimble, Fellsmere, Fla., call for 3 stories; brick, variegated shale brick; main building to contain 44 rooms and annex; will move present structure and remodel; will contain 22 rooms; 30 rooms to have private bath; phones in all rooms; dining-room to accommodate 120 people; cost, including site, about \$60,000. (Previously noted.)

Md., Havre de Grace.—Susquehanna Inn Co. let contract to Clarence E. Stubbs, 548 Equitable Bldg., Baltimore, to erect hotel; Old English type; brick and stucco; upper stories, half timber; 63x128 ft.; cost about \$100,000; Theodore Wells Pietsch, Archt., American Bldg., Baltimore. (Previously noted to have let contract to another firm, but this cancelled.)

N. C., Winston-Salem.—Forsyth Hotel Co., R. J. Reynolds, F. H. Fries, Jas. H. Gray and others, let contract to W. H. Fetter to erect addition to Zinzendorf Hotel; 5 stories; 30x100 ft.; making 40 or 50 additional rooms; 4 stories on first floor; cost \$20,000;

Northrup & O'Brien, Architects, Winston-Salem. (Previously noted.)

MISCELLANEOUS

Mo., Kansas City.—Studio.—Kansas City Scenic Studio Co., 2331 Grand Ave., let contract to Edelman & Fleming, Midland Bldg., Kansas City, to erect scenic studio; 55x90 ft.; brick and stone; Barrett specification roof; concrete floors; cost \$20,000; heating about \$3000; lighting about \$7000; Carl Boller & Bro., Architects, Kansas City. Address owner. (Lately noted.)

S. C., Greenville.—Exposition.—Southern Textile Association let contract to Fluke-Carter Construction Co., Greenville, to erect building for exposition and auditorium; 3 stories; 100x210 ft.; slow burning with reinforced concrete walls; asbestos built-up roof; plank floors; hot-water heating system; electric lighting, city current; electric freight elevator with 8x17-ft. car; auditorium and gallery to seat 3500 people; cost \$85,000 to \$90,000; J. E. Serrine, Archt., Greenville. (Lately noted.)

SCHOOLS

Fla., Jacksonville.—Board of Public Instruction let contract to Southern Construction Co., Clark Bldg., Jacksonville, to erect schools at Long Branch and Davis Sts.; 8 rooms each; brick; gravel roof; wood floors; cost of both \$31,365; Mark & Sheftall, Architects, Clark Bldg., Jacksonville. (Previously noted.)

Fla., Orlando.—Baker & Holmes Co., Tampa, Fla., has contract for brick (Legg Dixie Knap, manufactured by Legg Brick Co., Calhoun, Ga.) for school building for which F. A. Peppercorn, Orlando, has general contract; brick; ordinary construction; built-up roof; wood floors; dry-air heat; electric lights; cost \$30,000; F. H. Trimble, Archt., Fellsmere, Fla. (Lately noted.)

Ga., Athens.—Board of Education let contract to L. C. Smith Co. at \$6400, exclusive of equipment, to erect gymnasium for high school on Prince Ave.; 50x96 ft.; concrete foundation; cement stucco construction; tin roof; wood floors; steam heat, \$1000; electric lights, \$150; plans by J. W. Barnett, City Engr. (Lately noted.)

Ky., Ashland.—Board of Education, Geo. F. Parks, Secy., let contract to Sanders Construction Co. to erect \$100,000 high school; also let contract to James J. Weller, Huntington, W. Va., for structural steel and ornamental iron work; F. L. Packard, Archt., Columbus, Ohio. (Lately noted.)

Ky., Union City.—School Board has plans by R. A. Heaven, Jackson, Tenn., for high-school building; cost \$30,000; let contract to Sherrill-Russell Lumber Co., Paducah, Ky., for mill work. (Lately noted.)

Mo., Kahoka.—Kahoka School Dist. let contract to John T. Williford, Kahoka, to erect school; 124x71 ft.; carrying brick walls; fireproof corridors and stairs; asbestos 4-ply built-up roof; reinforced concrete and wood joist floor construction; electric lights; cost \$46,671; vacuum steam heat, \$5744; Trunk & Gordon, Archt., Donnell Court Bldg., St. Joseph, Mo. (Lately noted.)

N. C., Greensboro.—Greensboro College for Women let contract to M. L. Hollody, Greensboro, to erect additional dormitory; 3 stories; brick veneer; slate roof; cost \$34,000; 1-pipe steam heat, \$3300; also let contract at \$6560 to Hunt Bros., Greensboro, for heating and plumbing; C. C. Hook, Archt., Charlotte, N. C.

Tex., College Station.—Holmboe Co., Oklahoma City, general contractor to erect veterinary science building for Agricultural and Mechanical College, let following sub-contracts: Millwork, Steves Sash & Door Co., San Antonio; roofing, Texas Roofing & Insulating Co.; structural steel and ornamental iron, Mosher Mfg. Co.; both of Dallas; plans by Endress & Watkins, Austin, call for fireproof structure; Barrett specification roof; reinforced concrete floors; heating and lighting from central plants; cost \$90,000. (Lately noted.)

Tex., Iowa Park.—School Board let contract to Charles B. Bialkowski, Wichita Falls, Tex., to erect public school; 3 stories; 10 rooms and auditorium; cost \$14,400; Madorie & Field, Architects, Wichita Falls. (Lately noted.)

Tex., Wellington.—Wellington Ind. School Dist. let contract to W. J. Galley, Mineral Wells, Tex., to erect school; 2 stories and sub-story; 56x96 ft.; brick, tile and concrete; Barrett specification roof; wood floors; room heaters; electric wiring; cost \$22,000; C. H. Leinbach, Archt., Dallas. Address contractor. (Lately noted.)

Va., Lynchburg.—School Board, R. C. Blackford, Chrmn., let contract at \$13,576 to C. W. Womack & Co., Lynchburg, to erect school building in Rivermont at Cabell and Grayson Sts.; 4 rooms and basement; brick; hollow tile and concrete slate roof; concrete and wood floors; contract for heating let to F. L. Watson, Lynchburg, at \$1,780. Stanhope S. Johnson, Archt., 604 People's Bank Bldg., Lynchburg. (Lately noted.)

Va., New Hope.—Middle River Dist. School Board let contract to E. A. Aldhizer, Staunton, Va., to erect 4-room addition to school; wood; tin roof; wood floors; cost \$3000; low-pressure steam heat, \$1700. Address Jno. S. Hinegardner, Weyers Cave, Va. (Lately noted.)

W. Va., Morgantown.—R. R. Kitchen & Co., Wheeling, W. Va., general contractor to erect agricultural building at University of West Virginia, let following sub-contracts: Brick, Morgantown Brick Co.; roofing and sheet-metal work, J. M. Clark; both of Morgantown; terra-cotta, Atlantic Terra-Cotta Co.; folding partitions, J. G. Wilson Corp.; composition floors, Marbleoid Co.; all of New York; interior slate work, Chas. H. Hahn; face brick, Martin Brick Co.; both of Pittsburgh, Pa.; reinforcing steel, Corrugated Bar Co., Buffalo, N. Y.; bluestone, Rowan County Freestone Co., Farmers, Ky.; limestone, Shen, Donnelly & Gilson Co., Bedford, Ind.; millwork, Carnahan Mfg. Co., Logansport, Ind.; sand and gravel, McClain Sand Co., Point Marion, Pa.; painting, S. G. Crow, Bellaire, Ohio; cement, Alpha Portland Cement Co., Alpha, N. J.; plans by Paul A. Davis, 3d, 1713 Sansom St., Philadelphia, Pa., call for 3-story-and-basement structure; 55.9x188 ft.; slate roof; ground floor cement; first floor reinforced concrete; second and third floors wood-joist construction; brick walls; terra-cotta and limestone trimmings. (Previously noted.)

STORES

Fla., Monticello.—T. G. Bishop has contract to erect brick store building.

Ga., Columbus.—James A. Lewis let contract to Hifford & Whitaker, Girard, Ala., to erect business building for Brannon & Carson Co.; 2 stories and basement; 44x140 ft.; brick; pressed-brick front; limestone and terra-cotta trim; plate glass; standard mill construction; tar and gravel roof; sprinkler system; electric elevator; cost \$20,000; T. F. Lockwood, Archt., Murrah Bldg., Columbus.

Ga., Hawkinsville.—Cabero Bros. let contract to W. D. McEachern, Hawkinsville, to erect 2-story double store building; cost, including site, \$15,000.

Ky., Lexington.—John Skain and others let contract to erect store and office building. (See Bank and Office.)

La., New Orleans.—McElwee & Wiedman, Corsicana, Tex., let contract to J. E. Metcalf to erect four 2-story brick business buildings; cost \$50,000.

N. C., Newton.—Estate of T. W. Long and Capt. Andrew Long let contract to T. L. Steele and L. T. Holler, Statesville, N. C., to erect store building; 50x90 ft.; brick. (Previously noted.)

N. C., Winston-Salem.—Forsyth Hotel Co. let contract to erect hotel addition to contain stores on first floor. (See Hotels.)

Tex., Dallas.—Mrs. R. R. Gains, Austin, let contract to G. G. Johnson, Jr., Box 411, Dallas, to erect store building; 21.10x110 ft.; brick and terra-cotta; tar and gravel roof; slow-burning floor construction; Otis elevator; cost \$15,000; Lang & Wittich, Archts., Dallas. (Lately noted.)

Tex., Port Arthur.—F. H. Drunagel, Port Arthur, has contract to erect business building at Proctor and Beaumont Sts.; 2 stories; brick; 35x140 ft.; cost \$20,000.

Tex., Port Arthur.—C. H. Barnes let contract to erect brick business building; 2 stories; 35x140 ft.; cost \$20,000.

Tex., Seymour.—C. H. and N. P. Mitchell let contract to J. R. Walkup, Seymour, to erect store building; 50x100 ft.; stone and gray brick with black mortar; old style tin roof; concrete floors; electric lights; cost \$10,000. (Lately noted.)

THEATERS

Tenn., Memphis.—Sam Zerrilla, 328 Beale Ave., let contract to F. A. Cory, 1117 Faxon St., Memphis, to erect theater at 332 Beale Ave.; 40x146 ft.; brick and tile; built-up tar and gravel roof; concrete floors; cost \$18,000; hot-water heat, \$700; electric lights, \$1500; W. C. Lester, Archt., Scimitar Bldg., Memphis. (Lately noted.)

WAREHOUSES

Fla., Miami.—I. E. Shilling Co. let contract to W. Marvin Allen to erect warehouse; 110x50 ft.; hollow concrete tile; 1½ stories; John B. Orr, Miami, has contract for masonry.

Ga., Augusta.—McKenzie Building Co., Augusta, has contract to erect 5 warehouses;

38x142 ft. each; 1 story; brick and concrete; steel trusses; fire doors; metal-covered windows; cement floors; cost \$25,000.

Md., Orangeville.—Pompeian Oil Co., Coca-Cola Bldg., Baltimore, let contract to West Construction Co., Knickerbocker Bldg., Baltimore, to erect warehouse; several stories; brick and reinforced concrete; capacity 3,000,000 gals.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Air Compressor.—M. B. Parker, 1912 Oak St., Chattanooga, Tenn.—Second-hand 400-ft. capacity air compressor; steam or belt driven.

Air Compressors (Portable).—Virginia Mica Corp., Perkinsville, Va.—Prices on portable air compressors for operating jigger drills. (See Derricks, etc.)

Bank Equipment.—Ed F. Keelzel, Winter Park, Fla.—Prices on bank safe, etc., for \$4000 bank building.

Boilers.—F. S. Strite, Frick Co., 406 Atlanta National Bank Bldg., Atlanta, Ga.—Wants (for client) two 300 H. P. H. R. T. boilers, complete with stack, accessories and fittings.

Boilers, etc.—Pritchard-Wheeler Lumber Co., 1118 Bank of Commerce, Memphis, Tenn.—Prices on 3 boilers and sundry supplies. (See Lumber-plant Supplies.)

Boilers.—Greensboro Supply Co., Greensboro, N. C.—10 horizontal return-tubular boilers, 150 H. P. each; good for 125 lbs. working pressure or upwards.

Brick Machinery.—Wilfred G. Gehr, Alexandria, La.—Data and prices on equipment for brick manufacturing plant; also wants correspondence with engineers who design brick plants.

Bridge Construction.—Iredell County Comms. and Catawba County Comms., Statesville, N. C.—Bids until May 9 to construct Island Ford bridge across Catawba River, 12 mi. from Statesville; plans and specifications on file with Register of Deeds, Newton, N. C., and Statesville, N. C.; Osborne Brown is Chrmn. Comms. Catawba County, Newton; J. E. Boyd, Chrmn. Comms. Iredell County, Statesville.

Bridge Construction.—Maryland State Roads Com., 601 Garrett Bldg., Baltimore, Md.—Bids until May 15 on 116-ft. reinforced concrete arch bridge across 15-Mile Creek, Allegany county. (See Road and Bridge Construction.)

Bridge Construction.—Baldwin County Comms., Bay Minette, Ala.—Bids until June 6 to construct bridges and causeways on road from Robertsdale to Nunez Ferry; plans, profiles and specifications on file with Judge of Probate, Bay Minette; L. Glendenning, Road Commr. Third Dist.

Bridge Construction.—Princess Anne County Comms., Princess Anne, Va.—Bids until May 10 to construct 2 bridges; superstructures of wood, treated with creosote throughout, except decking; substructures of treated pile bents, one 105 ft. long over Thalia arm of Lynnhaven River and one 135 ft. long over Lynnhaven River near Lynnhaven; plans and specifications on file at Clerk's office, Lynnhaven, and with State Highway Commission, Richmond; further information from G. P. Coleman, State Highway Commr., Richmond.

Bridge Construction.—Comms. District of Columbia, Washington, D. C.—Bids until May 24 to construct 7-span steel-plate girder highway bridge, abutments, piers and approaches on Benning Rd., crossing tracks of Philadelphia, Baltimore & Washington R. R.; specifications and information from Chief Clerk, Engr. Dept., 427 District Bldg., Washington.

Bridge (Iron and Concrete) Construction.—See Road and Bridge Construction.—Chal-borne County Suprvs.

Bridge (Reinforced Concrete) Construction.—See Road and Bridge Construction.—Polk County Comms.

Buckets (Galvanized, Iron or Steel).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids to furnish 28,200 iron or steel galvanized buckets, schedule 1015, various deliveries.

Cans (Tin).—T. O. Williams, Williams Food Products Co., Petersburg, Va.—10,000 No. 3 tin cans for vegetable (tomato) canner. (See Canning Machinery.)

Canning Machinery.—T. O. Williams, Williams Food Products Co., Petersburg, Va.—Data and prices on equipment for small tomato canner; similar to home canning outfits, but probably larger; for 10,000 to 20,000-can crop; equipment to include cans and labels.

Carbonizing Furnace, etc.—Academy Shops Mfg. Co., Eufala, N. C.—Data and prices on carbonizing furnace and on compound to prevent carbonizing.

Cars (Dump, Side).—M. B. Parker, 1912 Oak St., Chattanooga, Tenn.—Twelve 3-yd. 36-in. gauge 2-way side-dump cars; second-hand.

Cars (Mine).—Salt Lick Coal Co., I. T. Craft, Mgr., Prestonburg, Ky.—Prices on 42-in.-gauge mine cars. (See Rails, etc.)

Cassava Starch.—A. S. Wheeler, Prest. Chapel Hill Board of Trade, Chapel Hill, N. C.—Addresses of dealers in or importers of cassava starch.

Coal Mining.—Diddenburg Coal & Coke Co., 413 Temple Court Bldg., Chattanooga, Tenn.—Addresses of companies making specialty of mining coal on contract.

Compressors (Air).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 26 complete air compressors, schedule 1016, delivery Portsmouth, N. H.; also 4 steam-driven torpedo air compressors, schedule 1025, delivery f. o. b. works.

Cotton Machinery.—Wm. J. Frees, Prest. Austin Securities Co., 913 Littlefield Bldg., Austin, Tex.—Data and prices on machinery for manufacturing cotton cordage and twine.

Chinaaware Manufacture.—Sani-Septic Disinfecting Co., 919 S. 13th St., Omaha, Neb.—Correspondence with view to placing manufacture of device of china or vitreous ware.

Church Furniture.—Rev. Sam W. Crabtree, Charleston, W. Va.—Prices on church furniture for \$25,000 church.

Crane (Locomotive).—W. Stewart, Newport News & Hampton Railway, Gas & Electric Co., Hampton, Va.—Ten-ton steam-driven locomotive crane with grab bucket; first-class condition.

Derricks, etc.—Virginia Mica Corp., Perkinsville, Va.—Prices on small derricks, complete with kerosene or gasoline hoisting engines; small portable air compressors for operating jigger drills; mine pumps to handle 5000 gals. per hour under 125-ft. head; all to be operated by kerosene or gasoline engines.

Drainage System.—Comms. Drainage Dist. No. 14, Craighead County, Jonesboro, Ark.—Bids until May 3 to construct 10 mi. of drainage ditches, consisting of cleaning out and enlarging 1 main ditch, 54,000 cu. yds., and constructing 2 laterals, 146,000 cu. yds.; plans and specifications on file with Cobb & Lee, Engrs., Jonesboro; address bids to Guy W. Cobb, Engr. Jonesboro, Ark.

Electrical Equipment.—Greensboro Supply Co., Greensboro, N. C.—400 to 500 K. W. 3-phase 60-cycle 2300-volt revolving field alternator direct connected to uniflow or

tandem-compound Corliss engine, together with exciter, switchboard, etc.; furnish complete specifications, with lowest price; thoroughly good operative condition.

Electrical Equipment.—E. D. Gray, Main St., Pennsboro, W. Va.—Prices on electrical equipment for structure to be used for bowling alley, plumbing shop and offices.

Electrical Equipment.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids to furnish 230 ft. double-braided rubber-insulated single-conductor cable; 15,450 ft. lead-covered paper-insulated single-conductor cable; 5005 ft. lead-covered rubber-insulated duplex cable; 10,400 ft. lead-covered paper-insulated duplex cable; 10,900 ft. lead-covered paper-insulated 3-conductor cable, and 2850 ft. lead-covered rubber-insulated 3-conductor cable, schedule 1023, delivery Pensacola, Fla.; electrical supplies (distribution boxes, junction boxes, switches, receptacles, etc.), schedule 1046, delivery Brooklyn, Mare Island; 1500 ft. double silk and single cotton pothead wire, schedule 1023, delivery Pensacola.

Electrical Machinery.—Southern Machinery Exchange, Somerset, Ky.—Dealers' prices on 300 K. V. A. 2300-volt 3-phase 60-cycle generator and 200 H. P. motor, 3-phase 60-cycle transformer.

Electrical Machinery.—F. S. Strite, Frick Co., 406 Atlanta National Bank Bldg., Atlanta, Ga.—Second-hand 125-150 K. W. generating set, alternating current, 220 volts, 2-phase, 60-cycle, direct connected to economical steam engine or arranged for belt drive.

Engine (Gas or Oil).—W. L. Duncanson, Brundage, Tex.—Prices on 20 or 25 H. P. gas or oil engine for deep well pumping.

Engines (Oil, Crude), etc.—B. W. Frost, San Diego Oil & Gas Co., Benavides, Tex.—Prices on 20 H. P. crude oil engine and 2000 ft. of pull rods; also price on 2 H. P. crude oil burner engine.

Engines (Brick Plant).—See Brick Machinery.—Wilfred G. Gehr.

Engines (Kerosene or Gasoline).—See Derricks, etc.—Virginia Mica Corp.

Forge Equipment.—Comms. District of Columbia, 500 Dist. Bldg., Washington, D. C.—Bids until May 11 to furnish and install forge shop equipment in Central High School Bldg., No. 173; blank proposal forms, plans, specifications and information from Chief Clerk, Engr. Dept., 427 Dist. Bldg.

Excelsior Machinery.—J. A. McKinstry, care Guntersville Realty Co., Guntersville, Ala.—Data on establishment of excelsior plant, including cost, operation, etc., and prices on machinery.

Extracting (Orange-rind Oil) Machinery.—Florida Fruit Products Co., Coconut Grove, Fla.—Data and prices on machine for extracting oil from rind of oranges.

Flooring.—A. C. Price and J. Rice Scott, Sarasota and Bartow, Fla.—In market for floor covering for bathroom, laundry and similar purposes.

Galvanized Sheets.—Dezell Enterprise Co., Greensboro, Fla.—Data and prices on thin galvanized sheets for lining small ice boxes.

Glove (Canvas) Machinery.—Tom B. Burnett & Co., Dallas, Tex.—Prices on complete equipment of machinery to manufacture canvas gloves, including sewing machines, dies, etc.

Hammer (Drop).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on drop hammer, schedule 1019, delivery Boston.

Heating Plant.—W. H. Rogers, Rich Mountain, Ark.—Prices on heating plant for 2-room school.

Heater (Water).—Greensboro Supply Co., Greensboro, N. C.—500 H. P. closed boiler-fed water heater; in first-class operative condition.

Heating Plant.—A. C. Price and J. Rice Scott, Sarasota and Bartow, Fla.—In market for small heating plant for 8-room school.

Labels.—See Canning Machinery.—T. O. Williams.

Levee Construction.—Levee Comms., Orleans Levee Dist., Wm. McL. Fayssoux, Prest., Suite 201, New Court Bldg., New Orleans, La.—Bids until May 16 to construct following: Kentucky to Andy St., length 3300 lin. ft., contents 32,000 cu. yds. earthwork, removal and resetting of 3900 lin. ft. revetment; Andy St. to Jackson Barracks, length 3500 ft., contents 65,000 cu. yds. earthwork, removal and resetting of 3500 lin. ft. revetment; for further information address Comms.

Lime and Cement.—Dan River Lumber Co., Walnut Cove, N. C.—Prices on carload lime and cement.

Locomotive (Electric Mine).—M. B. Parker, Chattanooga, Tenn.—Prices on 42-in. gauge 230-volt D. C. electric mine locomotive; second-hand; first-class condition.

Locomotive.—Pfeuffer Cedar Co., New Braunfels, Tex.—Prices on new or second-hand 30 to 40-ton geared locomotive, 36-in. gauge.

Locomotives.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on saddle-tank 4-wheel locomotive, schedule 1000, delivery Puget Sound; also complete switching locomotive, schedule 1008, delivery Portsmouth, N. H.

Lumber-plant Supplies.—Pritchard-Wheeler Lumber Co., 1118 Bank of Commerce, Memphis, Tenn.—Prices on supplies; will erect mill-construction building (by company force) at Wisner, La., and install single-band and resaw. (See Boilers, etc.)

Machines and Tools.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids to furnish 40-in. boring and turning lathes and 2 bench milling machines, schedule 1017; 52-in. boring and turning lathe, schedule 1033; automatic screw machine, schedule 1011, delivery Washington; 12x5-in. engine lathe, schedule 1036, delivery Pearl Harbor, H. I.; 14-in. by 6-ft. engine lathe, schedule 1017, delivery Hingham, Mass.; 20x12-in. engine lathe, three 14-in. sensitive drilling machines and one 16-in. crank shaper, schedule 1014, delivery Charleston, S. C.; toolroom lathe (12-in. swing, 6-ft. bed) and corebox machine, schedule 1013, delivery Boston; beveling machine (angle, etc.), schedule 1020; hydraulic frame bender machine, rotary shear machine, bending press beam machine, 350-ton hydraulic press joggling machine and drill press horizontal machine, schedule 1040, delivery Philadelphia; bolt threading machine and two 20 or 36-in. band saws, schedule 1055, delivery Puget Sound; joggling machine plate machine, schedule 1040, delivery Norfolk; two planer machines, three 36-ft. plate planer machines, two angle punch machines, three convertible punch or shear machines, three heavy work punch or shear machines and two double angle shear machines, schedule 1040, delivery Philadelphia, Norfolk.

Mattress Machinery.—Pittsburg Mattress Co., Ben B. Scott, Mgr., Pittsburg, Tex.—Prices on mattress machinery, including felting machines; cotton picker with blower; one 10 H. P. and one 15 H. P. 3-phase 60-cycle 1750 R. P. M. electric motor of standard type.

Metals.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids to furnish 330,300 lbs. brass (primer rods), schedule 1030, and 3000 steel forgings (forward and aft propellers), schedule 1032, delivery Newport; bronze (angles, bulb), sheet bronze, soft brass rivets, medium bronze rivets, schedule 1002; 68,000 lbs. steel forgings and 88,630 lbs. steel forgings, schedule 1006, delivery Mare Island; 2450 lbs. nickel steel (forgings, 6-in. liner), schedule 1032, delivery Washington.

Mining Machinery (Coal).—Burneagle Coal & Coke Corp., 507 Strickland Bldg., Roanoke, Va.—Data and prices on improved electrical coal-mining equipment.

Mining and Crushing (Limestone) Machinery, etc.—Ernest G. Williams, 730 6th Ave., Huntington, W. Va.—Addresses of manufacturers of machinery for limestone crushing and mining, etc.

Mixer (Concrete).—J. N. Jordan, Plainview, Tex.—Prices on mixer (has \$120,000 contract for brick paving on reinforced concrete base).

Molder.—Dan River Lumber Co., Walnut Cove, N. C.—Prices on 12-in. molder; second-hand or rebuilt.

Nails (Steel).—Stover-Elkhorn Coal Co., 1813 Fisher Bldg., Chicago, Ill.—Prices on steel nails.

Oil (Fuel).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 3600 bbls. fuel oil, schedule 934, various deliveries.

Pan (Wet, Grinding).—M. B. Parker, 1912 Oak St., Chattanooga, Tenn.—Second-hand 4-in. to 7-in. wet grinding pan.

Partitions.—Rev. Sam W. Crabtree, Charleston, W. Va.—Information on folding or rolling partitions for \$25,000 church.

Paving.—City of Moundsville, W. Va., O. B. Bonar, Clerk.—Bids until May 16 to construct concrete curb and paving 24 ft. wide on concrete base with grout filler on Purdy Ave. from 13th to 14th St.; plans and specifications furnished by City Engr.

Paving.—City of Clarksdale, Miss., W. S. Bobo, City Engr.—Bids until May 22 to construct 30,000 sq. yds. asphaltic concrete pavement, 7000 lin. ft. curb and gutter, in-

lets, etc.; proposal forms, specifications and information from Chief Clerk, Engr. Dept., 427 District Bldg.

Paving.—Comms. District of Columbia, Washington, D. C.—Bids until May 21 to pave various streets and avenues with sheet asphalt and asphalt blocks; proposal forms, specifications and information from Chief Clerk, Engr. Dept., 427 District Bldg.

Paving.—City of Gretna, La., John Ehret, Mayor.—Bids until May 21 to pave sections of Copernicus, 1st, Washington and other streets; asphaltic material and small granite blocks on concrete subbase; city to furnish gravel, sand and small granite blocks; bidders to furnish labor and other material; plans and specifications on file with Mayor.

Paving.—J. F. Stampf, Commr. of Streets, Waco, Tex.—Bids until May 3 to pave S. 5th St. from Jackson to Speight St.; 18,150 sq. yds. paving and 3025 cu. yds. excavating; bids on bitulithic, bituminous concrete, vertical fiber brick laid flat, creosoted wood block; profiles and plans on file with City Engr.; John C. Davis, City Secy.

Piling (Sheet Steel).—L. F. Hobbs, Box 483, Norfolk, Va.—200 tons sheet-steel piling, 40 ft. long.

Pipe Fittings, Tubing, etc.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids to furnish 900,000 lbs. unannealed brass tubes and 35,000 lbs. medium hard-drawn brass tubing, schedule 1030, delivery Newport 18 1/4-in. bottom blow valves, schedule 1004, delivery Mare Island; lead pipe, pipe (copper, seamless or bronze), black welded steel pipe and seamless black steel pipe, schedule 1003, delivery Puget Sound.

Pipe (Cast, Water).—J. E. Thompson, 1514 Ashwood Ave., Nashville, Tenn.—Prices on 1500 ft. 6-in. and 6000 ft. 4-in. cast pipe; for installation Sparta, Tenn.

Piping.—Crane Oil & Gas Co., Room 6, State National Bank Bldg., Shawnee, Okla. 12 1/2-in. 50-lb. casing and 10-in. 35-lb. casing; 500 or 600 ft. of either or both, for immediate shipment; wire at Crane Co.'s expense.

Pump.—Town of Morganton, N. C.—Bids until May 8 to furnish motor-driven pump complete to deliver 250 gals. water per min. against pressure of 160 lbs. per sq. in.; consider bids covering centrifugal or triplex pump; particulars from Town Mgr.

Pump (Power).—Ponce de Leon Ice Mfg. Co., Atlanta, Ga.—8x10 or slightly larger duplex horizontal belt-driven power pump of standard make; guaranteed good working condition; write or wire exact dimensions, make and price.

Pumps.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on three air and circulating pumps, main air pumps, 22 pumps (feed, fire and bilge, etc.), and 12 pumps (lubricating oil, etc.), schedule 1026, delivery Norfolk; 4 combined air and circulating pumps 3 dynamo air condenser pumps 18 pumps (dynamo-room, hot well, etc.), 16 feed pumps and 15 pumps (oil cooler, etc.), schedule 1028, delivery Brooklyn, N. Y.; 30 fuel oil service pumps, schedule 1027, delivery Brooklyn, Norfolk; 2 horizontal pumps, schedule 1001, delivery Las Animas, Col.; 30 fuel oil service pumps, schedule 1027, delivery Brooklyn, Norfolk.

Pumps (Mine).—Virginia Mica Corp., Perkinsville, Va.—Prices on mine pumps to handle 5000 gals. per hour under 125-ft. head. (See Derricks, etc.)

Rails.—Box 4, Cambria, Va.—Forty tons 24 to 30-lb. and 3 or 4 tons 12-in. relaying rails.

Rails, etc.—Salt Lick Coal Co., I. T. Craft, Mgr., Prestonburg, Ky.—Prices on light steel and heavy rail; also on mine cars, 42-in. gauge.

Refrigerator Linings.—See Galvanized Sheets.—Dezell Enterprise Co.

Road Construction.—Baldwin County Comms., Bay Minette, Ala.—Bids until June 6 to grade and construct road from Robertsdale to Nunee Ferry, 15 mi.; plans, profiles and specifications on file with Judge of Probate, Bay Minette; L. Glendinning, Road Commr. Third Dist.

Road Construction.—Green County Commissioners, Eutaw, Ala.—Bids until May 26 to grade and drain part of State Trunk Road No. 7, between Eutaw and Tuscaloosa County line; W. S. Keller, State Highway Engr., Montgomery; date of opening bids postponed from May 14; lately noted.

Road and Bridge Construction.—Maryland State Roads Com., 601 Garrett Bldg., Baltimore.—Bids until May 15 to construct about 1.18 mi. concrete road through Fed-

eralsburg, Caroline county, Contract No. Co-11; also bids on Contract No. A-13-Br., Allegany county; reinforced concrete arch across 15-Mile Creek on National Pike; 66-ft. clear span, with arcade approaches and earth fill; length of concrete structure over all 116 ft.; specifications and plans obtainable from Com.

Road and Bridge Construction.—Kent County Comms., Sam Hicks, Clerk, Chestertown, Md.—Bids until May 15 to construct State-aid highways as follows: Ireland's Corner to Massey, 3 mi.; Still Pond Station to State Road, 2.21 mi.; through village of Still Pond, .75 mi.; through Betterton, .58 mi.; also construct Crumpton bridge across Chester River, connecting Kent and Queen Anne's counties, 200 ft. long; plans can be seen and forms of specification and contract obtained for \$1 from State Roads Com., 601 Garrett Bldg., Baltimore.

Road and Bridge Construction.—Polk County Comms., J. A. Johnson, Clerk, Bartow, Fla.—Bids until May 26 on road and bridge construction, Special Road and Bridge Dist. (No. 1) of Winter Haven, Fla.; 302,000 sq. yds. asphalt road paving, with pipe drainage, culverts, etc., and 9 reinforced concrete bridges, each having (about) 20-ft. span; bids received on all, or separate bids on paving and on bridges; plans and specifications at offices of County Clerk, Bartow, and of G. Wallenweber, Engr., Winter Haven, Fla., and copies of specifications obtainable from either.

Road and Bridge Construction.—Clairborne County Supvs., L. B. Allen, Prest., Port Gibson, Miss.—To open bids May 8 on graveling roads and constructing iron and concrete bridges.

Rolling-mill Machinery.—J. S. Wylie, 711 Majestic Bldg., Oklahoma City, Okla.—Prices on rolling-mill machinery.

Roofing (Galvanized Metal; Composition).—Dan River Lumber Co., Walnut Cove, N. C.—Prices on 5 V-crimp galvanized metal roofing; also composition roofing.

Scales (Platform).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 2 portable platform scales, schedule 1040, delivery Philadelphia, Norfolk.

Sewer System and Water Extension.—City of Bishopville, S. C., W. S. James, City Clerk.—Bids until May 22 for sewer system and water extension; information obtainable from J. B. McCrary Co., Engr., Atlanta, Ga.

Shafts (Flexible).—C. W. Ashcraft, Florence, Ala.—Addresses of manufacturers of flexible shafts for operating hand tools.

Shear.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on shear (single, circling, etc.), schedule 1024, delivery Norfolk.

Sisal Webbing and Yarns.—L. H. Gilmer Co., C. Walker Gilmer, Sales Mgr., Tacony, Philadelphia, Pa.—Addresses of manufacturers of sisal webbing in the wider widths; also of manufactures of sisal yarns.

RAILROAD CONSTRUCTION

RAILWAYS

Fla., St. Cloud.—South Florida Interurban Ry. Co., Inc., says it will complete line between Melbourne, Haines City and Sanford, Fla., 125 or 130 mi., by first of next year. Capital being obtained. Setting grade stakes completed May 1. Total length of line, which will also be built west and southwest from Sanford to Tampa and thence back to Haines City, will be 275 or 300 mi. Chas. D. Brenner, Prest.; John H. Bowlin, V.-P.; Frederic B. Stanley, Treas., and Wm. Hall, Secy. Headquarters First National Bank Bldg., St. Cloud, Fla.

Ga., Washington.—Elberton & Eastern Railroad Co., of which R. C. Hoffman, Jr. of Baltimore is president, has submitted a proposition to citizens of Washington to build an extension 11 or 12 mi. long from Tignall, the present terminus, to Washington on subscription of \$50,000 and other terms. Nothing definite yet.

Ky., Hazard.—Louisville & Nashville R. R. it is stated, will build branch from a point about 12 mi. east of Hazard up Leatherwood Creek, 12 or 15 mi., to lands in timber and coal territory of the Kentucky Union Land Co. in Perry and Leslie counties, for which preliminary survey has been made by W. A. Newman of Lexington, Ky. H. C. Williams, Louisville, is Ch. Engr. for the railroad company.

Ky., Lexington.—Elk Fork Railway Co., capital stock \$25,000, has filed incorporation articles stating indebtedness which may be

incurred at \$1,000,000. Proposes to build 40-mi. coal and timber railroad in Morgan and Elliott Counties connecting with Chesapeake and Ohio Railway, Ashland Coal and Iron Railway, Eastern Kentucky Railway and other roads. Headquarters at Lexington. Incorporators: W. S. Whiting of Elizabethtown, Tenn.; H. M. Collins of Frankfort, Ky.; Wm. R. Snyder, Wm. H. Porter and J. F. Caywood, all of Lexington; C. W. Moorman and George McLeod, both of Versailles, Ky. T. C. Fuller is also said to be prominently interested.

Tenn., Collinwood.—Permanent survey is reported complete for the Wayne-Hardin Railroad from Collinwood to Wayne Furnace, 14 mi., and construction bids are being received. E. H. Steinman, Collinwood, is Gen. Mgr.

Tenn., Dallas.—Standard Utilities Construction Co., capital stock \$100,000, chartered, with headquarters at Denton, Tex., to build electric railway from Dallas via Denton to Sildell, Tex., 58 mi. Incprts.: M. W. Deavenport and H. Rowe, both of Denton; Ira E. Cornelius of Muskogee, Okla., and O. F. Hopkins of Tulsa, Okla.

Tenn., El Paso.—El Paso & Southwestern System says that plans for the enlargement and improvement of its yards at El Paso are not yet completed, and some time will elapse before this work is undertaken. G. F. Hawks is Gen. Mgr.

Tenn., Midland.—Midland & Northwestern Railway has laid 17 mi. of track on its line

Stack (Steel).—Greensboro Supply Co., Greensboro, N. C.—Self-supporting steel stack, 60 inches diameter by 100 to 200 feet in length; furnish sketch giving full particulars, together with lowest price.

Stave Machinery (Nail Keg).—M. Wake-man & Son, Brock Road, Va.—Slightly-used or good second-hand nail-keg stave-cutting outfit complete.

Shell and Tile.—Supervisors Terrebonne Parish Road Dist. No. 2, J. C. Dupont, Chrmn., Houma, La.—Bids at Police Jury Room, Courthouse, until May 19 to furnish 12,000 cu. yds. commercial clam shell, delivered on banks of Bayou Terrebonne and Bayou Black; also 286 ft. 24-in. tile, 78 ft. 18-in. tile, 286 ft. 15-in. tile; separate bids for shell and tile; plans and specifications may be seen and proposal forms obtained from office of T. B. Smith, Engr., Houma.

Tiles (Floor).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 10,740 sq. ft. floor tiles, schedule 1034, delivery Mare Island.

Track Bolts, Rivets, Sheet Copper, etc.—Panama Canal, Earl I. Brown, General Purchasing Officer, Washington, D. C.—Bids until May 19 to furnish track bolts, rivets, sheet copper, sheet brass, grommets, electric cable, magnet wire, resistance testing set, spark plugs, storage batteries, dry cells, motor-driven planer, drill press, water-closets, pipe bends, anvils, vises, files, planes, buckets, manila rope, fire hose, ring packing, canvas, binders board, carbon paper, lime, foundry clay, fire-brick, and lumber; blanks, etc., relating to circular (No. 114) obtainable from this office or offices of assistant Purchasing Agents, 21 State St., New York; 614 Whitney-Central Bldg., New Orleans; Fort Mason and San Francisco; also from United States Engineer offices throughout United States.

Tube Welder.—D. L. Casey Machine Co., Springfield, O.—Second-hand tube welder for sizes 2-in. to 4-in.; good condition.

Water-wheel.—D. T. Vance, Plumtree, N. C.—New or second-hand 23-in. Lefell-Samson or Morgan-Smith water-wheel, with horizontal shaft.

Well (Water) Construction.—Board Commissioners, C. F. Semmelbeck, City Clerk, Oklahoma City, Okla.—To open bids May 15 on "Section K," excavating and concreting clear well; plans and specifications now on file office City Clerk.

Woodworking (Rotary Veneer) Machine.—H. L. Douglass, Morristown, Tenn.—Prices on used rotary veneer machine for cutting stock for egg cases, butter trays, etc.; good condition.

Safe.—See Bank Equipment.—Ed F. Keezel.

Yarns.—See Sisal Webbing and Yarns.—L. H. Gilmer Co.

Water-works Extension.—See Sewer System and Water-works Extension.—City of Bishopville, S. C.

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Tex., Palestine.—Board of Prison Commissioners and the Governor of Texas are considering plans to extend Texas State R. R., authorized by recent act of Legislature, to either Dallas or Waco on the west or to Shreveport or Alexandria, La., on the east. Extensions would be from 90 to 100 mi. in case of first three or from 140 to 150 mi. in case of latter point. Expected to begin work (on whichever two extensions are de-

cided) some time in the fall of this year. J. B. Welborn, Palestine, Tex., is Mgr.

W. Va., Beckley.—Preliminary survey is being made by S. T. Farley of Beckley, for construction of a mine branch by the Chesapeake & Ohio Railway to the operation of the Very Top Seam Coal Co. at Daniels, W. Va., in which L. M. Dorsey of Beckley, and George Wolfe of Winding Gulf are interested.

STREET RAILWAYS

Ga., Savannah.—Savannah Electric Co. plans to build street railway extension on Abercorn St. and 51st St. to Barnard St. H. C. Foss is Mgr.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Fla., Arcadia.—Hughes Trust & Mortgage Co., capital \$75,000, is being organized, and business is expected to begin June 1. Robert Hughes of Indianapolis is the principal promoter.

Fla., Winter Park.—Union State Bank, capital \$30,000, is organized with the following directors: C. D. Christ, J. C. Vick, F. M. Henkel, W. E. Martin, Ed. F. Kezel, A. Schultz and J. F. Fange. Business is to begin in four months.

Ga., Dublin.—Bank of Dublin, a conversion of the First National Bank of Dublin, is chartered; capital \$35,000.

La., Thibodaux.—First National Bank of Lafourche is chartered, capital \$50,000. Petitioners: Dr. A. J. Price, Dr. Le Meyer, W. D. Berand and Louis H. Brand, Thibodaux; C. A. Fricke, Gretna, La.

N. C., Asheville.—Bankers Trust & Title Insurance Co., chartered, capital \$250,000. Incorporators: Philip R. Moale, W. R. Davis, R. L. Ray, W. E. Shuford, J. E. Rankin, Huga La Bare, S. M. Hanes, Ed. Erwin Sluder and George H. Wright.

N. C., Belhaven.—Farmers' Bank Incptd.; authorized capital \$25,000. Incptrs.: N. B. Marner, Prest.; J. O. Newberry, V.-P.; J. W. Sawyer and A. L. Walker. Business is to begin about June 1.

N. C., Robersonville.—Farmers Banking & Trust Co., capital \$50,000, is organized by A. R. Dunning, F. A. Crofton, J. Rynum Roberson and others.

N. C., Walnut Cove.—Stokes Realty Loan & Insurance Co., chartered, capital \$25,000. Incorporators: C. M. Jones, C. N. Petrie, T. J. Covington and J. W. Slate.

Okla., Ardmore.—American National Bank, capital \$100,000, has applied for charter. Among those interested are Chas. Adams of Ardmore, a Mr. Parmenter of Holdenville, and a Mr. Disney of El Reno, Okla.

Okla., Butler.—First National Bank, Cor. Main and Broadway, Incptd., capital \$25,000, surplus \$2500. Geo. H. Maller, Prest.; R. C. Elledge, Cashier. Business has begun.

S. C., Bamberg.—People's Loan & Insurance Co., capital stock \$5000, is granted a commission; Incorporators, A. M. Denbow of Bamberg and C. F. Muckenfuss of Waltherboro, S. C.

Tex., El Paso.—Border National Bank, capital \$200,000, surplus \$25,000, began business recently. Judge J. M. Goggin is Chairman of the Board of Directors; Crawford Harvie, Prest.; T. M. Quebedeaux, V.-P.; W. E. Arnold, V.-P. and Cashier; F. E. Beecher, Asst. Cashier. The bank is located at Texas and Stanton Sts.

Tex., Forestburg.—First State Bank of Forestburg is authorized to do business, capital \$10,000. James F. Freeman is Prest., and James E. Strong, Cashier.

Tex., Rule.—The Farmers' State Bank, capital \$15,000, which recently began business, has officers thus: R. M. Smith, Prest.; S. M. Davis, Cashier, both of whom, together with W. H. Wilson, R. C. Montgomery and E. L. Lewis, constitute the directors.

Tex., Waxahachie.—Guaranty State Bank of Waxahachie has filed an amendment to its charter changing its name to the Guaranty State Bank & Trust Co. of Waxahachie and increasing capital from \$150,000 to \$200,000.

Va., Upperville.—Fauquier-Loudoun Bank, capital \$25,000, surplus \$2500, has begun business. Directors: J. A. Buchanan, Thomas B.



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W. Va., Cabin Creek Junction.—Bank of Cabin Creek is chartered, capital \$25,000. Incptors: A. S. Curetan, Cabin Creek Junction; R. K. Melmrau, Coalburg; W. W. Wagner, C. C. Moore and J. W. Calvert, Cheyan.

W. Va., Parkersburg.—Community Savings & Loan Co., authorized capital \$125,000, is organized by J. T. Callahan, J. W. Romine, Charles E. Smoot, Sam M. Dils and E. L. Davidson.

NEW SECURITIES

Ala., Carrollton.—(Road).—Steps are being taken to issue \$130,000 of Pickens County bonds. Address County Commrs.

Ala., Hamilton.—(School).—Question of issuing \$6000 of bonds is under consideration. Address The Mayor.

Ala., Marion.—(School).—\$6000 of Hamilton County bonds are voted. Address County Commrs.

Ala., Opelika.—(School).—Bids will be received until 10 A. M. May 14 for \$30,000 of 5 per cent. bonds. J. G. Palmer is Mayor. Further particulars will be found in the advertising columns.

Ala., Selma.—(School).—Election is to be held May 15 to vote on \$40,000 1-25-year bonds; interest to be 4 or 5 per cent. Louis Benish is Mayor, and H. H. Sweat, City Clerk.

Ark., Grubbs.—(School Refunding).—On May 9 Special School Dist. of Grubbs will sell \$10,000 of 6 per cent. bonds. Address J. S. Webster, Secy. of Dist.

Fla., Gainesville.—(Road).—\$500,000 of 5 per cent. 20-50-year \$1000 denomination bonds Alachua County Sub Road Dist. No. 5, are voted. Date for opening bids not yet determined. W. B. Taylor, Bond Trustee.

Fla., Groveland.—(School).—\$7000 of bonds recently voted are 20-year 6 per cents. Address E. E. Edge.

Fla., Perry.—(Street, Water, Sewer).—Election May 15 on \$25,000 (not \$75,000 as previously reported) of street paving and \$30,000 of water main and sewer bonds. J. H. Scales is Pres. of Council.

Fla., Sarasota.—(Municipal Bldg., Dock).—\$40,000 of 5 per cent. municipal building and dock bonds have been sold to Terry & Co. of Jacksonville, Fla., for \$38,501.

Fla., Tampa.—(Road).—\$100,000 of Citrus Park, Hillsborough County, bonds are voted and bids for same will be opened May 29. E. T. Young, W. F. Jackson and E. J. Spivey, Bond Trustees.

Ga., Fayetteville.—(School).—\$30,000 of 5

per cent. Fayetteville Dist., Fayetteville County, defeated.

Ga., Griffin.—(Street).—Bids will be received until noon May 16 for \$45,000 of 4½ per cent. 12-30-year \$500 denomination bonds. Dated May 1, 1917. E. P. Bridges is City Clerk and Treas.

Ga., Swainsboro.—(Sewer, Water).—\$50,000 bonds defeated.

Ga., Thomasville.—(Water, Light, Fire Department, Street).—Election is to be held May 8 to vote on \$160,000 of 4½ per cent. \$500 denomination bonds, dated July 1, 1917, and maturing \$10,000 after 15 years and \$10,000 annually until matured, except the last year, when the amount is doubled. L. H. Jerger is Chrmn. Finance Com.

Ga., West Point.—(Streets, Sidewalks).—Election is to be held May 29 to vote on \$30,000 of 5 per cent. \$1000 denomination bonds, dated Sept. 1, 1917, and maturing January, 1947. John T. Johnson is Mayor, and L. Strong, City Clerk.

Ky., Lebanon.—(School).—\$40,000 of 4 per cent. 20-year bonds have been purchased at par by three local banks. Address Hugh Murray, Secy. Board of Education.

La., Abbeville.—(School).—Election is to be held May 29 to vote on \$20,000 of Kaplan School Dist., Vermillion Parish, bonds. Address Parish School Board.

La., Alexandria.—(Road).—\$67,000 of bonds Road Dist. No. 1, Rapides Parish, have been purchased by the Commercial Bank & Trust Co., Alexandria, at par, accrued interest and \$300 premium.

La., Alexandria.—(Bridge, Road).—Bids received until noon May 2 for \$50,000 of bridge and \$15,000 of road 5 per cent. Rapides Parish bonds. T. C. Wheadon is Pres. Police Jury.

La., Floyd.—(School).—The \$10,000 of 5 per cent. \$500 denomination Oak Grove school bonds is the same issue voted last July, and the new ordinance was passed to change the denomination of the bonds to suit purchasers. They were bought by R. J. Edwards, Oklahoma City, Okla.

La., Lake Providence.—(Road, Bridge).—\$100,000 of 5 per cent. serial 3½-year \$300 denomination road, highway and bridge bonds of East Carroll Parish have been voted, and bids for bonds will be received about July 1. C. S. Wyly is Sec. Police Jury.

La., Many.—(Road).—On account of lack of legal approval no sale was made April 24 of the \$30,000 of 5 per cent. Sabine Parish bonds offered on that date. They will again be offered in near future. W. R. Ross is Secy. Board of Dist. Supervisors.

La., Pleasant Hill.—(Road).—No sale was made April 24 of the \$30,000 of 5 per cent. bonds Road Dist. No. 6, Sabine Parish, and they will be again offered in about 90 days. W. R. Ross is Secy. Dist. Supvrs.

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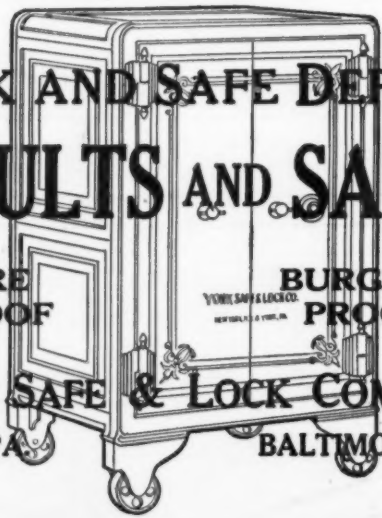
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Mo., Clayton—(School).—\$4000 of Rock Creek School Dist., St. Louis County, are voted. Address County Comms.

Miss., Leland—(Sewer).—Bids will be received until 8 P. M. May 8 by J. H. O'Quinn, Town Clerk, for \$40,000 of 5½ or 6 per cent. 1-20-year bonds.

Miss., Magnolia—(School).—Board of Supervisors Pike County has ordered the issuing of \$35,000 of county agricultural high-school bonds.

Miss., Natchez—(Water, Sewer).—Board of Aldermen has authorized issue of \$15,000 of bonds. F. Winchester is Supt.

Miss., Ripley—(Road).—\$14,100 of 6 per cent. Tippah County bonds have been purchased at par by the Bank of Ripley, Ripley, Miss.

Mo., Danville—(Road).—\$35,000 of Mineola Special Road Dist., Montgomery County, bonds are voted. Address County Comms.

Mo., Smithville—(School).—\$17,500 of 5 per cent. \$500 denomination school district bonds have been purchased at a premium by Soper Taull, Liberty, Mo.

Mo., St. Louis.—A special dispatch to the Manufacturers Record says that the Mayor's Cabinet, composed of representatives of about 100 civic and commercial bodies, besides various city officers, has voted unanimously to introduce an ordinance in the Board of Aldermen providing for a special election on the question of issuing bonds for municipal improvements aggregating \$18,840,000, this to include \$9,915,000 for sewerage River Des Peres, building industrial railroad along it, reclaiming land and building streets and viaducts; \$3,325,000 for sewers and reconstruction of sewers, \$250,000 for city garbage plant, \$100,000 for street-material yards, \$100,000 for fireproofing city stables, \$1,000,000 for approaches to free bridge, \$500,000 for bridges, viaducts and streets, \$45,000 for municipal farms, \$300,000 for motorization of fire department, \$150,000 for Koch Hospital extension and \$2,750,000 for parks and playgrounds.

N. C., Asheville—(Funding).—Ordinance has been prepared providing for the issuing of \$55,000 of bonds. D. H. Ramsey is Commr., and F. L. Conder, Secy.-Treas.

N. C., Asheville—(Street).—\$35,000 of 5 per cent. \$1000 denomination bonds, dated March 1, 1917, and maturing 1919 to 1936, have been purchased at \$35,375, and accrued interest by Seasongood & Mayer, Cincinnati, O.

N. C., Charlotte—(School).—Special dispatch to the Manufacturers Record says that \$250,000 of bonds are voted. A. H. Wearn is City Clerk and Treas.

N. C., Durham—(County Bonds).—Recent sale of \$125,000 of Durham County bonds has been declared void, and they will be re-offered June 7. R. P. Reade is County Atty.

N. C., Raleigh—(State Bonds).—Result of bids for \$500,000 of 4 per cent. State improvement bonds; Citizens' Bank of Henderson, N. C., \$25,000 at a premium of \$125; Wilmington (N. C.) Savings & Trust Co., \$110,000 at \$112 premium; Citizens' National Bank of Raleigh, \$150,000 at \$602 premium; John G. Wood, \$5000 at \$85.50 premium; T. W. Wade, \$50,000 at \$68 premium; Mrs. W. L. Banks, \$25,000 at \$427.50 premium; total of these, \$385,000, on which total premium is \$1420, leaving \$135,000 to be allotted at par. There were 21 other bids for varying amounts from \$2000 up to \$100,000, all at par, excepting the bid of the Wachovia Bank & Trust Co. of Winston-Salem, N. C., which offered a premium of \$1250 for the entire issue of bonds; thus the individual bids show an advantage of \$170 in comparison. There were three bids for \$100,000 each at par, these being Jefferson Standard Life Insurance Co., Savings Bank & Trust Co. of Elizabeth City, N. C., and R. M. Miller, Jr. The issue was heavily oversubscribed, the aggregate of bids being for \$1,451,500 par value. B. R. Lacy is State Treasurer.

N. C., Statesville—(School).—Election is to be held June 19 to vote on \$25,000 Graded School bonds. C. D. Moore is Clerk and Treas.

N. C., Statesville—(Drainage).—Bids will be received until May 8 for \$36,000 of 6 per cent. drainage bonds. H. R. Cowles is Chrmn. Board of Comms. of Iredell County.

N. C., Swan Quarter—(Improvement and Indebtedness).—Bids will be received until noon May 21 for \$25,000 of 6 per cent. improvement and indebtedness bonds, dated March 1, 1917, and maturing March 1, 1920, and one each year thereafter until all are paid; denomination \$1000. Address Leslie E. Jones, Atty. to Board of Comms. Further particulars will be found in the advertising columns.

N. C., Troy—(Road).—\$30,000 of 5 per cent. 30-year Mount Gilead Township, Montgomery

County, bonds recently voted, will be sold at private sale. Frank McAulay is Chrmn. Town Comms.

N. C., Wilson—(School).—\$150,000 of Wilson Graded School Dist., Wilson County, bonds recently voted are 6 per cent. Chas. L. Coon is Supt. of Schools.

N. C., Winston-Salem—(Road).—Steps are being taken to issue \$50,000 of Forsyth County bonds; denomination \$1000; maturity \$10,000 each year for 5 years. Geo. W. Maslin is Chrmn. Board County Comms.

Okla., Coyle—(Water).—\$13,000 of 6 per cent. 5-25-year \$500 denomination bonds have been purchased at par, plus 3 per cent., by R. J. Edwards, Oklahoma City, Okla.

Okla., Edmond—(School).—\$15,000 of high-school bonds recently voted have been sold. O. W. Jeffries is Clerk.

Okla., Hobart—(Fair Site).—Election is to be called to vote on \$10,000 of bonds to purchase land for fair site. Address Mayor Hunter.

Okla., Lehigh—(City Hall, Jail).—\$5000 of 6 per cent. \$1000 denomination bonds, dated Feb. 3, 1917, and maturing 1942, have been purchased at par, plus accrued interest, by W. A. Brooks, 1115 State National Bank, Oklahoma City, Okla.

Okla., Norman—(School).—Election is to be held May 2 to vote on \$300,000 of bonds. Address School Board.

Okla., Oklahoma City—(Park).—Election is to be held May 8 to vote on \$300,000 of 5 per cent. \$500 denomination bonds for purchase of State fair grounds for park purposes. Address Mike Donnelly, Commr. Accts. and Finances.

Okla., Purcell—(Road, Bridge).—\$20,000 of Goldsby Township, McClain County, bonds have been purchased by W. A. Brooks of Oklahoma City.

Okla., Sapulpa—(School).—\$100,000 of \$1000 denomination bonds have been purchased at par and premium by the American National Bank. John W. Young is Secy. Board of Education.

Okla., Tulsa—(Water-works).—Election will probably be called to vote on \$675,000 of bonds. John H. Simmons is Mayor.

S. C., Abbeville—(Road).—Election is to be held August 7 to vote on \$300,000 of Abbeville County bonds. M. L. Evans is Clerk Board of County Comms.

S. C., Beaufort—(Street).—\$15,000 of 5 per cent. \$500 denomination bonds, maturing Sept. 1, 1917, to 1932, have been purchased at par by K. M. Marshall & Bro., Charleston, S. C.

S. C., Columbia—(School).—Election is to be held May 8 to vote on \$10,000 of bonds School Dist. No. 23. Address Lee Muller, Chas. D. Wilson and Brooks Brown.

S. C., Montmorenci—(School).—Election is to be held May 10 to vote on \$6000 of bonds Montmorenci School Dist. No. 35, Aiken County. John Barton, J. E. Shuler and Jesse Parker, Trustees, County Board of Education.

S. C., Union—(Highway).—Bids will be received until noon May 23 for \$125,000 of 30-40-year Union Township, Union County, bonds, dated July 1, 1917. Denomination \$1000. Address Highway Commission. A. G. Kennedy, Chrmn. and E. W. Stone, Secy. Further particulars will be found in the advertising columns.

S. C., Yorkville—(School).—A petition is in circulation for an election to vote on \$30,000 of 6 per cent. 30-year school-repair or building bonds. Address Town Council.

Tenn., Arlington—(Water, Light).—\$15,000 of bonds have been purchased at par, accrued interest, attys' fees, etc., by the National City Bank of Memphis. W. A. Taylor is Mayor.

Tenn., Dayton—(Auditorium).—Election May 1 to vote on \$20,000 of bonds. Address The Mayor.

Tenn., Dresden.—\$5000 of 6 per cent. bonds recently voted have been sold. R. L. Sudoth is Mayor.

Tenn., Lenoir City—(Water).—\$25,000 of bonds are to be issued. Address J. W. Buf-fell, Supt.

Tenn., Memphis—(School, College).—County Court Shelby County has authorized the issuing of \$200,000 county school and \$150,000 of Bolton college bonds. Address County Comms.

Tenn., Morristown—(School).—\$30,000 of school and \$17,000 of funding bonds have been sold to the Mercantile Trust Co. of Jackson, Tenn., at par, premium and interest.

Tenn., Nashville—(School).—\$100,000 of 5 per cent. bonds have been purchased at

(Continued on Page 100.)

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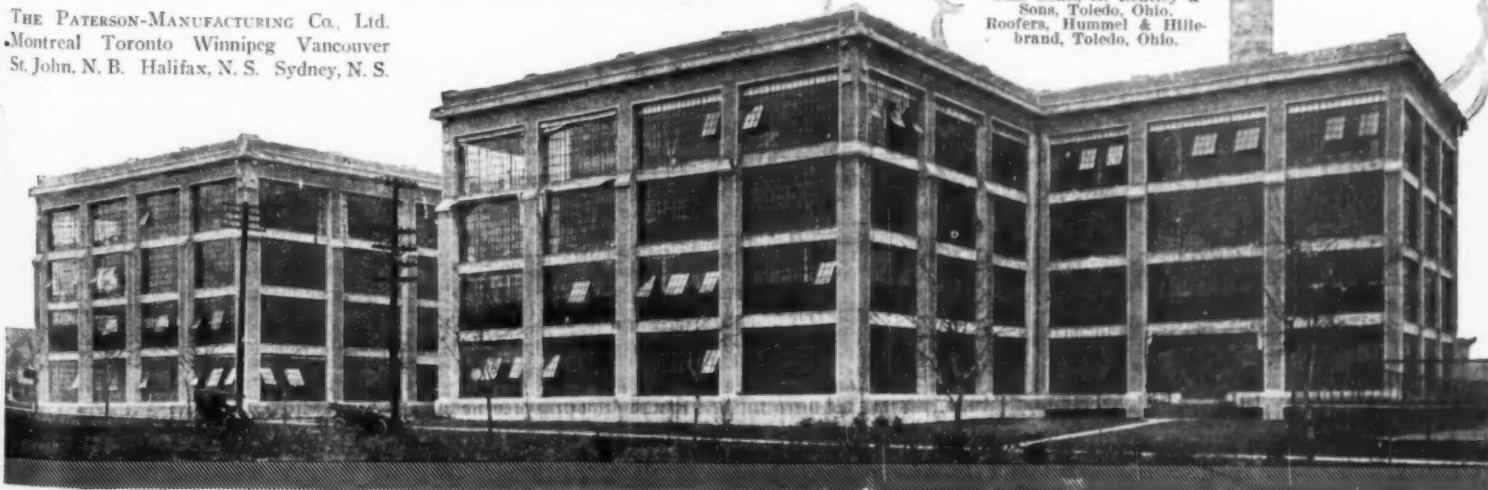
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\$102,111 by Seasongood & Mayer, Cincinnati, and Cummings, Prudden & Co., Toledo.

Tex., Amarillo—(School).—Election is to be held May 5 to vote on \$15,000 of 5 per cent. 40-year independent school district bonds. Address School Board.

Tex., Angleton—(Road).—Petitions have been circulated, it is reported, asking that an election be called to vote on \$50,000 of Angleton Dist. bonds. Address County Commissioners.

Tex., Archer City—(Road).—Archer County may issue \$60,000 in 6 per cent. script for road improvement. Address County Commrs.

Tex., Austin.—The Attorney-General has approved bonds as follows: Hearne Independent School Dist., \$50,000, 5 per cent.; Wellington Independent School Dist., \$25,000,

5 per cent. 40 year; Eastland County school \$1500, 5 per cent. 10-20s.; \$500,000 of 4½ per cent. 10-40-year Dallas County road and bridge; \$85,000 of 4½ per cent. Victoria independent school dist.; \$9500 of 4½ per cent. 10-30-year Rockport street refunding; \$60,000 of 5 per cent. 10-40-year Crosby County Road Dist. No. 1.

Tex., Belton—(School).—Election is to be held May 5 to vote on \$1500 5 per cent. 10-year bonds Common School Dist. No. 62 (Willow Spring Dist.), Bell County; denomination \$500. Address Board of Trustees.

Tex., Boerne—(Road).—\$40,000 of Kendall County bonds are voted. Address County Commrs.

Tex., Brady—(Road).—Bids will be received until 11 A. M. May 21 by J. E. Brown,

County Judge, for \$30,000 of 5 per cent. 10-40-year McCulloch County bonds, dated Feb. 12, 1917; denomination \$1000.

Tex., Calvert—(School).—\$300,000 of bonds recently voted have been sold. Address A. K. Tyson.

Tex., Dallas—(Levee).—Election is to be held in Dallas County Levee Improvement Dist. No. 2, Dallas County, May 26 to vote on \$108,000 of bonds. Address County Commissioners.

Tex., Fort Worth—(School).—Election is to be held May 12 to vote on \$2000 Dist. No. 64, and \$5000 Dist. No. 101, Tarrant County, bonds. Address County Commrs.

Tex., Groesbeck—(Road).—\$100,000 of 5 per cent. 20-40-year Road Dist. No. 9, Limestone County, bonds are voted. Address County Commrs.

Tex., Jourdanton—(Road).—Election is to be held May 12 to vote on \$30,000 of Lytle Precinct, Atascosa County, bonds. Address The Mayor.

Tex., Kirbyville—(School).—\$25,000 of 5 per cent. 40-year \$500 denomination bonds have been purchased by Hogan, Walker & Co., subject to election May 12. B. A. Woods is Pres. Kirbyville Independent School Board.

Tex., Plainview—(Street).—\$40,000 of 5 per cent. 10-40-year street paving bonds have been purchased at \$40,247 by the Hanchett Bond Co., Chicago.

Tex., Post—(School).—\$36,000 of bonds recently voted have been sold. A. R. Anderson is County Judge.

Tex., Rockport—Causeway.—All bids received April 20 for \$300,000 of 5 per cent. 20-40-year \$1000 denomination Aransas County bonds offered on that date were rejected. F. Stevens is County Judge.

Tex., Slaton—(School).—\$10,000 of bonds are voted. Address School Board.

Tex., Wichita Falls—(Road).—Election is to be held in Wichita County May 21 to vote on \$750,000 of bonds. Address County Commrs.

Va., Eastville—(Road).—Bids will be received until June 11 at noon for \$10,000 of 30-year \$500 denomination road bonds of Northampton County, interest rate to be

proposed by bidders. George T. Tyson is Clerk of Suprs.

Va., Farmville—(Water, Light, Street).—Election to vote on \$50,000 of 5 per cent. 20-year bonds is postponed from April 24 to June 14. S. W. Paulett is Mayor, and Paul T. Boggs, Clk.

W. Va., Edgewood (P. O., Wheeling).—Election is to be held May 5 to vote on street improvement bonds. Address The Mayor.

W. Va., Fairmount—(Refunding).—Bids will be received until 1 P. M. May 24 for from \$460,000 to \$760,000 of 4½ per cent. bonds. Address The Mayor.

FINANCIAL NOTES

Officers for the ensuing year were elected by the Louisiana Bankers Association at its annual meeting held at Lake Charles, La., last week as follows: Prest., L. O. Broussard of Abbeville; V.-P., Frank Roberts of Lake Charles; Secy., Eugene Cazessus of Baton Rouge, and Treas., W. J. Mitchell of New Orleans. The executive committee will choose the place for the next annual meeting.

The Georgia Country Bankers' Assn., which held its annual convention at Macon last week, re-elected C. T. Smith of Concord as president. The vice-presidents elected are J. E. Frizell of Waverly Hall, L. P. Patillo of Bartow, and R. L. Leonard of Dallas. There were 300 members present.

The Association of Reserve City Bankers, which held its convention in Baltimore last week, elected officers for the year as follows: Prest., George W. Staley of Detroit; V.-P., George H. Dunscomb of Chicago. Next year the convention will be held in New York.

The Investment Bankers' Association of America will hold its annual convention this year in Baltimore on Oct. 1, 2 and 3.

The Mechanics & Metals Bank of the City of New York has issued a reprint of the War Loan Act as approved April 24, 1917, which is preceded by an introductory article descriptive of the proceedings at Washington in relation to the war and its financing, this including an outline of the provisions of the law.

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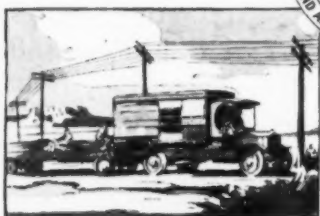
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INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Roller Skates as Time Savers.

While roller skating is usually an amusement, it can be made useful in business. The Westinghouse Electric & Mfg. Co. has adopted it in its East Pittsburgh works for its messenger boys, the time of whose trips is materially lessened.

Relating to Graphite Machinery.

The Home Supply Co., Ashland, Ala., in the graphite region of that State, announces that it is in a position to handle second-hand crushers, rolls, reels and dryers for milling graphite and desires to get in touch with individuals or others having such machinery to dispose of. The company also handles explosives, screens, belting, bags and coal, in addition to acting as agents for manufacturers of graphite mining and milling equipment and supplies.

Change of Name.

The McKenna Brass & Manufacturing Co., Inc., has succeeded to the business of the McKenna Bros. Brass Co., manufacturers of brass and brass goods, Pittsburgh, Pa. The address is P. O. Drawer 1249. This business was established in 1856, and it occupies a large and handsome building at Ross St. and First Ave. Among its specialties is the manufacture of brass and bronze railings, grilles and structural brass work, in addition to many other articles of those metals.

Charles S. Vought Appointed.

The American Steel Export Co., Woolworth Bldg., New York, announces with pleasure the appointment of Mr. Charles S. Vought as Assistant General Manager of Sales. He is well fitted to assume the duties and responsibilities of this position, having largely directed the immediate sales policy of the company and having devoted his per-

sonal attention to practically all of the many hundred orders handled during the last year. Mr. Vought has an entire familiarity not only with the various export markets of the world and their peculiarities and special requirements, but he has also a thorough knowledge of mill conditions and technicalities involved in the production of steel and steel products, and was formerly one of the managers of the Order Department of the Cambria Steel Co.

TRADE LITERATURE

All About Belting.

"Leather Belting" is a handsomely prepared catalog issued by the Chas. A. Schieren Co., whose main office and factory are located at 30 to 38 Ferry St., New York, where "Duxbak" belting is made, besides belt lacing, lace leather, belt cement, belt dressing, round leather belting, rawhide rope and leather. The book is beautifully illustrated and is provided with tables of sizes and price lists covering the varied products of the company, all being arranged conveniently for reference.

Westinghouse Lamps and Lighting.

Westinghouse Arc Lamps and Lighting Systems are the subjects of Catalog 7-A, which has just been issued by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa. This book, which has more than 100 pages, is most interesting. It is handsomely printed and illustrated, and the descriptions accompanying the pictures are pertinent and enlightening to all who consult it. Ample data is presented to enable customers to select that which would best meet their requirements in any instance.

(Continued on Page 105.)

DIRECTORY CHEMISTS GEOLOGISTS CHEMICAL ENGINEERS TESTING LABORATORIES

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

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ESTABLISHED 1886

The oldest, largest and best equipped organization of Chemists and Engineers in the country for the investigation of conditions affecting the efficiency and economy of industrial operations.

93 Broad Street

BOSTON

TRADE LITERATURE

(Continued from Page 100.)

"Tatelec" Waterproofing Process.

"A Brief Exposition of the Art of Waterproofing Textile Fabrics" is the title of a booklet issued by the Tate Electro Waterproofing Corporation, 318 West 39th St., New York City. After describing various other methods of water-proofing the booklet tells all about the Tate electrolytic method, which was first employed on an industrial and commercial basis at Montreal, Canada, last autumn. It is asserted that fabrics treated by this method have a water-proofed durability under normal conditions of use, which lasts as long as the fabric itself, besides the material is made proof against mildew. "Tatelec" is the trade-mark of this process.

Rapid Work in a Fire Emergency.

"Only a Week's Interruption by Fire" is a story told by Westinghouse, Church, Kerr & Co., engineers and constructors, 37 Wall St., New York. It is presented in a folder which says that on Nov. 8 the East St. Louis Cotton-Oil Co. wired to have one of its buildings rebuilt, and that the firm's superintendent left New York that night, and on November 11 36 men and six teams were clearing up the site. On the 13th 12 carloads of lumber arrived and more were coming. On the 15th there were 12,250 square feet of flooring in place, and on November 16 the work was sufficiently advanced to enable the plant to resume operations.

"National" Pipe and Its Uses.

The average man commonly thinks of pipe as an article to convey steam, gas, air, water or something of that sort, but fails to remember that there are many other uses to which it is put. The National Tube Co., Pittsburgh, Pa., has issued Bulletin 27, which describes the various uses of "National" pipe. In the front are illustrations showing different ways of employing the product, together with some description, and in the back are engineering tables presenting information concerning its properties. The company decided, and that, too, wisely, to show a great number of uses for pipe and sacrifice details rather than to display a comparatively small number of uses with great detail of description.

U. S. Cast-Iron Culvert Pipe.

"Reducing Ultimate Culvert Costs" is discussed in a 24-page booklet by the United States Cast-Iron Pipe & Foundry Co. of Burlington, N. J., the letter-press being accompanied by appropriate illustrations. There are also excellent tables relating to embankment materials and culvert pipe. Highway sign posts, railroad sign posts, etc., are likewise illustrated in the little publication. There are five weights and five different lengths of U. S. cast-iron culvert pipe, which is cast vertically.

An Extensively Used Concrete Mixer.

A folder descriptive of the Haines Mixer has been issued by the Automatic Concrete Mixer Co., Inc., of Providence, R. I. This device, which is extensively used, has been

employed on some of the most important jobs in the South, including the new Hanover St. Bridge, the new sewer system, and Skinner's Dry Dock, all at Baltimore; the new Union Station and the Potomac River Bridge at Washington, D. C.; the dam at Whitney, N. C.; the Dallas (Texas) viaduct, besides the Railway Ticket Office Bldg., and the American Trust Bldg. at St. Louis; the Gallais Bldg. at Tulsa, Okla.; the concrete grain elevators at Sikeston, Mo., and the Kansas City (Mo.) Paper House.

Compressors and Drills.

The Ingersoll-Rand Co., 11 Broadway, New York, has recently issued two new catalogs. Form 3311, of 20 pages, covers the Imperial type X Duplex Steam-driven Compressors, suitable for the general industrial application of compressed air. Tables of sizes and capacities are presented, with complete illustrations giving details. Form 8507, of 40 pages, covers the Little David Pneumatic Drills and shows a large number of various types and models, with recommendations as to the particular character of work of which they are adapted. Each tool is illustrated and the several tables give the sizes and capacity of each. Copies will be sent on request.

Hill Clutch Equipment.

The Hill Clutch Co., Cleveland, Ohio, has issued Bulletin 1, the first of a series entitled "Hill Clutch Equipment," describing and illustrating friction clutches, collar oiling bearings, rope drives, etc. The subject of this issue is an installation for the Cleveland Galvanizing Works Co., which has, in connection with a 75 H. P. gas engine, a simple and efficient Hill Clutch transmission equipment, including a drop-off rope drive direct from the engine to all floors, and line shafting arranged for independent control by friction clutches in all departments. A diagram shows the arrangement of the rope drive and clutches for the several line shafts, and there are also illustrations displaying the other mechanism in use.

Motor Trucks and Their Care.

The B. F. Goodrich Company, Akron, Ohio, manufacturers of tires for automobiles, trucks, etc., has issued the fifth annual volume of its publication called "Motor Trucks of America." This valuable book of 164 pages presents a picture, and the specifications of each of the various types of trucks built, and in the introductory pages is a most excellent article, fully illustrated, written by S. V. Norton, manager of tire truck sales of the Goodrich Company, on "Lengthening the Life of the Motor Truck." This tells how to avoid damaging such vehicles by overloading, careless driving, etc., and the accompanying pictures present the arguments with additional force. Considerably more than 100 different trucks are described.

Haisl Digging Type Loaders.

A folder describing the Haisl Standard Digging Type Wagon Loaders has been issued by the George Haisl Manufacturing Co., Inc., New York City, engineers and manufacturers, who build these and other machines. Several illustrations display the loaders at work and another shows one proceeding along a road. There is also a copy of an investigation made by the Goodyear Tire & Rubber Co. of Akron, Ohio, declaring a saving of 15.2 cents per yard by the use of a Haisl Loader instead of hand labor, for loading friable material, such as gravel, crushed stone, etc., into trucks. This report notes handling of 100 yards per day; thus the saving would amount to \$15 daily, at which rate the cost of a Haisl loader would soon be saved.

Peace and the Steel Trade.

The American Steel Export Co., Woolworth Bldg., New York, has issued a 16-page pamphlet embodying a reprint of an article by Samuel Armstrong Benner which originally appeared in the Iron Trade Review of April 19, and entitled "What Peace Means to the Steel Trade." He is general manager of sales for the company and he has given a most thorough and careful consideration to the steel situation with regard to the war and the conditions which may be expected after the conclusion of peace. He presents tables to show the steel output now and what it will probably be next year and thereafter, calling especial attention to the great need of this country for ships to carry its products abroad and laying particular stress upon the importance of organized and general efforts to develop exports in steel. Copies of the publication will be supplied by the company on request.

Classified Opportunities

MINERAL AND TIMBER LANDS WATER POWERS MISCELLANEOUS PROPERTIES

50,000 ACRES in Caldwell Parish, Louisiana. Estimate, 306,240,000 feet. It is a very choice piece of timber and will cut 145,000,000 feet of white oak, 44,000,000 feet of red oak, 17,000,000 feet of cypress, 57,000,000 feet of gum and 3,000,000 feet of ash. Other timbers, 25,000,000. It is one of the best sawmill propositions in the South.

12,000 acres of hardwood, 98,000,000 feet, estimated as follows: White oak, 32,000,000; red oak, 9,000,000; gum, 32,000,000; cypress, 7,500,000; ash, 5,000,000; hickory, elm and other timbers, 15,000,000.

600,000,000 feet of hardwood timber; 80,000 acres in Arkansas, convenient to river and rail transportation. White and red oak, 354,000,000 feet; gum, 179,000,000; cypress, 12,500,000; hickory, 3,000,000; pine, 22,500,000; other timber, 27,000,000, making a total of 598,000,000, all high-class timber.

6700 acres of good timber, located in Issaquena Co., Miss., 3 miles from E. & M. V. R. R. Estimated as follows: White and red oak, per acre, 2500; gum, 1000 per acre; cypress, 750 per acre; ash, 200 per acre; elm, 500 per acre.

3000 acres of virgin timber in Concordia, La., near T. & P. R. R. 2300 absolutely virgin timber, 550 cut-over lands, 200 acres in cultivation. Timber estimated as follows: Red oak, 5,000,000; overcup, 2,000,000; hickory, 500,000; cypress, 500,000; ash, 500,000; gum, 2,000,000.

2200 acres of fine land and virgin timber, located in Beauregard Parish, Louisiana. Railroad through property and located also on the Saline River. The best sawmill proposition in the South for export. Estimated as follows: White oak, 7,185,000 feet; red oak, 7,335,000; gum, 15,000,000; hickory, 470,000.

110,000,000 of very fine, high-grade virgin timber in Southwest Louisiana, near tidewater; an excellent location for export, either logs or lumber. Estimated as follows: White oak, 22,000,000; red oak, 12,000,000; gum, 50,000,000; cypress, 3,000,000; magnolia, 2,000,000; pine, 22,000,000. Five per cent of the white oak is veneer stock. Write T. J. Buzard, 438 Scimitar Bldg., Memphis, Tenn.

FOR SALE—700 acres on railroad adjoining town of 5000; textile mill site and town development or subdivision property; electric power; extensive pike frontage. Address Oak Aydelott, Tullahoma, Tenn.

FOR SALE? Farm, timber land, mineral property or any other? We can help you get in touch with possible purchasers by an advertisement in these columns. For rates see head of this department.

BIG PROPERTIES.—80,000 acres, 200,000,000 feet L. L. pine timber, 20,000 acres prairie, Southern Florida; 20,000 acres coal, Southern Illinois; have merit. S. J. Burkitt, Mowqua, Ill.

VALUABLE COPPER and other mineral and timber lands at low prices. Write us, McClellan & Henry, Eminence, Mo.

FOR SALE—4 choice water-power sites near railway, with land at station for plants. Also mineral and timber. Address E. Carter, Livingston, Va.

FELDSPAR If you have or want them, write, KAOLIN. S. F. Sherman, 52 Broadway, New York City.

MANGANESE

MANGANESE ORE PROPERTY, consisting of 200 acres, thoroughly prospected. Many bore holes prove large vein and vast quantity of ore. The property is now being worked in a crude way and the operator is making large profits. This property is close to railroad and justifies scientific development. The owner of this property authorizes us for a short while to offer it at a very low figure. P. A. Green & Co., 713 Mutual Bldg., Richmond, Va.

IRON AND MANGANESE DEPOSITS

FOR SALE — MANGANESE.—About 800 acres manganese mineral rights in Frederick Co., Va., about 10 miles from R. R. station. Good roads. High-grade manganese ore now being mined and shipped. Property easily investigated. Chas. F. Nelson, 1945 Calvert St. N. W., Washington, D. C.

IRON ORE

FOR SALE—BROWN IRON ORE.—A rich deposit of several million tons of brown iron ore, well located between the thriving iron centers of Birmingham, Anniston, Gadsden and Ironaton. This is a property developed only enough to demonstrate and not worked out, testing from 43% to 54% metallic iron. Write for description by a well-known expert. A. A. Janney, Montgomery, Ala.

COAL LANDS

FOR SALE—6000 acres W. Va. coal. Two railroads and slackwater; 2 merchantable seams; numerous openings at outcrop; solid block; economical operation. Price low. Write today. R. M. Parrish, Grafton, W. Va.

RATES AND CONDITIONS

Rate 25 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 23c. per line; 300 lines, 21c. per line; 500 lines or more, 20c. per line.

COAL LANDS

FOR LEASE—Hazard, Ky., coal field. 2400 acres for lease, all or part. Address Edgerton Coal Corporation, Abingdon, Va.

TIMBER TRACT WANTED

WE ARE in the market for tract of Southern pine, either long or short leafed, suitable for present operating. Give full information first letter. Address Southern Land & Timber Co., 304 Traction Terminal Bldg., Indianapolis, Indiana.

TIMBER LAND

100 MILLION FEET VIRGIN TIMBER. LONG-LEAF PINE. Twelve thousand acres in Escambia County, Alabama, near L. & N. R. R., mostly unbled long-leaf timber; will cut about 100 million feet. Thirteen thousand acres in Covington County, Alabama, on Alabama, Florida & Gulf R. R.; will cut about 60 million feet. Let us furnish further particulars. Southern Realty Co., Mobile, Ala.

HARDWOOD TIMBER LAND.—50,000 acres Northwest Arkansas, in locality heretofore too far from transportation; tall, straight timber, large size, good quality—white oak, red oak, hickory, cherry and walnut; can divide into three tracts; sell separately; \$12 per acre. Southern Land & Timber Company, 304 Traction Terminal Bldg., Indianapolis, Indiana.

1760 ACRES VIRGIN TIMBER, eight miles from railroad. Long-leaf pine, extra fine quality; also best grade of white oak. All the land can be utilized as farm or stock ranch. Greatest abundance of water; convenient to schools. Will cut 3000 to 3000 feet per acre. \$15 per acre in fee. Box 176, Heber Springs, Arkansas. Heber Springs Development Company.

FOR \$2 PER ACRE, 160 acres of timber land, Arkansas Investment Company, Leslie, Arkansas.

TIMBER

TIMBER BARGAIN.—50,000,000 ft. original growth. 60% N. C. pine, 8% cypress, 8% poplar, balance red gum, etc., on Southern Rwy. in South Carolina. Large amount of additional, contiguous, similar stumpage can be bought cheap. For particulars write J. F. Mulherin, Augusta, Ga.

FOR SALE—About three hundred and seventy-five million feet of the highest grade and quality of virgin long-leaf yellow pine. For particulars address H. H. Wefel, Jr., Mobile, Alabama.

15 MILLION FEET fine ship timber in Eastern Virginia; about half yellow pine, balance oak and hickory, all virgin growth. Green & Redd, Richmond, Va.

FARM AND TIMBER LANDS

FOR SALE—A fine 7240-acre tract of land, with enough hardwood, pine and other timber to pay for the land. Splendid farming or stock proposition after timber is cut off. Price, \$5.00 an acre. Tutwiler & Powell, Dothan, Ala.

WE OWN LARGE TRACTS OF TIMBER LANDS, cut-over lands and colonizing lands. If interested, address H. H. Wefel, Jr., & Co., Mobile, Alabama.

CATTLE RANCH

CATTLE RANCH FOR SALE. 67,000 acres improved ranch, stocked with high-grade Hereford cattle, at a bargain. 31,000 acres at \$3.40 per acre. 7,500 acres at \$4.00 per acre. 30,000 acres leased for a term of years. Cattle will be sold at low figure to purchaser of ranch. \$35,000 cash will handle ranch. Address Box 40, Marfa, Tex.

STOCK FARMS

FOR SALE—AT A BARGAIN.—One of the best stock farms in Middle Georgia; ample space, splendid equipment, fertile valley lands; well fitted up with houses and improvements. Good roads to market within radius of 25 miles; easy railroad facilities. Party with proper capital can secure it for this season's operation. Address at once W. F. CRUSSELL, care Atlanta Constitution, Atlanta, Ga.

STOCK FARMS

FOR SALE.—Ten thousand acres especially well adapted for a ranch, located South Alabama. If buyer stocks ranch, would require no payment for three or four years. Address H. H. Wefel, Jr., Owner, Mobile, Ala.

FARM AND GRAZING LANDS

WE HAVE FOR SALE 328 farms in Piedmont Virginia and Northern Maryland, ranging in price from \$1000 to \$100,000, many of which are in a high state of cultivation, for general farming, grazing, orcharding and dairying. W. W. Briggs & Son, Orange, Va.

CUT-OVER LAND

BARGAINS. CUT-OVER LANDS. IN MISSISSIPPI AND ALABAMA. Eighteen thousand acres in Mississippi, N. O. & N. E. R. R. on east and Pearl River on west side, within fifty miles of New Orleans. Splendidly situated for colonization project, being in close proximity to steady market. Soil chiefly sandy loam with clay subsoil adapted to farming, trucking, orange growing, stock raising, etc. Plenty of native grasses, and can be cleared for farming at very moderate expense. \$6 per acre.

THIRTY THOUSAND ACRES in Alabama, on Southern Railroad, within seventy-five miles of Mobile, partly overlying supposed oil belt, admirably suited for stock raising, ranch, farming, etc. \$6 per acre. Write for particulars. Southern Realty Co., Mobile, Ala.

HOMESTEADS AND FARM LANDS

OREGON & CALIFORNIA RAILROAD CO. GRANT LANDS.—Title to same re-vested in United States by Act of Congress dated June 9, 1916. Two million three hundred thousand acres to be opened for settlement and sale. Power site, timber and agricultural lands. Containing some of the best land left in United States. Now is the opportune time. Large sectional map showing lands and description of soil, climate, rainfall, elevations, etc., postpaid, \$1. Grant Lands Locating Co., Box 610, Portland, Ore.

COUNTRY HOME

FOR SALE OR EXCHANGE. Magnificent modern country home, 10 acres, 15 rooms, gas, electricity, sewerage, fine water supply, 3 bathrooms, hot-water heat, servants' quarters, individual phones, garage, stable, barn, chicken-houses, in first-class condition. Garden, asparagus, strawberry beds, young orchard, all fruits, flower beds, beautiful shade. Overlooking Washington, 30 minutes U. S. Treasury by electric cars, 15 minutes auto, 10 minutes steam road. Price \$30,000; terms if desired. O. B. Zantinger, Washington, D. C.

TOWNSITES

ATTENTION, Townsite Men!—The Midland & Northwestern Rwy. Co., now building, offers one or all of its townsites, located between Midland and Seminole, for sale. Address T. J. O'Donnell, President, Midland, Texas.

FRUIT, FARM AND TRUCK LANDS

THESE COLUMNS ARE CLOSELY READ BY PEOPLE for information of all kinds about Southern properties of every description. If you have a property of any kind that you want to dispose of, try an advertisement in these columns. Others have to their advantage. For rates see head of department.

ALABAMA

FOR SALE in soft, ideal climate, grand bay view, choice 43-acre tract, \$500. Choice beach lots, \$100. Other cash bargains. J. O. Matson, Point Clear, Ala.

FLORIDA

FOR A SAFE and permanent investment Florida lands and values should interest you. Manatee County is the best location, and is destined to become one of the most progressive settlements in the State and a very profitable investment. Florida farms in Manatee County are below frost belt; have rich soil, with 365 producing days. Easy terms. J. Henry Strohmeyer, Maryland Casualty Tower Building, Baltimore, Md., and Sarasota, Florida.

FLORIDA

FOR SALE

6500 ACRES IN FLORIDA.

WHOLESALE PRICE. WILL NOT RETAIL.

Located on the East Coast, in Volusia county; price \$6.50 per acre; \$1 per acre down, balance \$1 per acre per year, 6 per cent interest on deferred payments; 8 miles west of New Smyrna, Fla.; on the Orange City branch of the Florida East Coast R. R.; Indian Springs Station is only 1/4 of a mile from it; 2500 acres are "prairie land." Has an elevation of about 22 1/2 to 41 feet above the tide water; top soil is a black sandy loam, underlaid with clay. Would make an ideal stock range. There are forty families farming in the adjoining sections; some have raised 45 to 50 bushels of corn to the acre, 50 barrels of Irish potatoes, and all kinds of garden truck, such as lettuce, beans, peas, Bermuda onions, besides good crops of rice, oats and grasses for feed. Title good. Owned in fee-simple, without incumbrance. Other information will be furnished upon request by E. C. Howe, 747 Hartford Bldg., Chicago, Ill.

FLORIDA.—Do you intend visiting the land of health and sunshine this winter? If so, write M. J. Hoenig, Prop. Hotel Palmis, West Palm Beach, Fla., for instructive booklet.

FREE, "THE WINTER GARDEN OF AMERICA," to Fruit Growers, Truckers, General Farmers, Cattle, Hog and Poultry Raisers. Folks interested in the great Indian River Section of Florida, write Indian River Farms Company, Suite O, 609 Putnam Bldg., Davenport, Iowa.

GEORGIA

1100 ACRES.—Ideal for livestock and grain raising; located 9 miles southwest of Sandersville, the county-seat of Washington county, Ga., on the Tennesse and Milledgeville public highway, a branch of the Dixie Highway from Chicago to Jacksonville, Fla. Tennesse, the nearest shipping point, has four railroads, giving low freight rates and direct connections in every direction. Tennesse is on the main line of the Central of Georgia R. R. from Atlanta to Savannah, and is the terminus of three other railroads; 1 1/2 miles from good school and 3 miles from church; 800 acres cleared, 400 acres of which has been stumped, 600 acres pasture, 300 acres woodland; light-gray loamy soil with stiff clay subsoil; buildings are: 1 4-room tenant-house, 62-room tenant-houses, 2 barns, 1 grain and hay barn, all in good condition; good water supply, wells, springs and branches; 50 acres fenced with rails and wire fencing; R. F. D. and phone line; fine branch which would develop 20 to 25 horsepower; natural drainage; 300,000 to 350,000 feet extra good mixed pine timber; property so lies on both sides of the public highway that it would make fine subdivision proposition; fine neighborhood of good people; well leased for 1917; complete possession, including lease, can be given purchaser at once; adjoining lands held at from \$25 to \$50 per acre; no exchange; unencumbered. Price \$12.50 per acre; terms, one-third cash, balance 1, 2, 3, 4 and 5 years at 8 per cent. per annum. Cannot be excelled for every kind of grain and every kind of livestock raising. H. D. Zapf Realty Co., Sandersville, Ga.

MISSISSIPPI

FOR SALE—235 acres of rich Mississippi Delta cotton, corn and alfalfa land, containing established mercantile cotton and cottonseed business. Usual improvements and townsite with a future. Address No. 3084, care Manufacturers Record, Balto., Md.

TEXAS

MONEY can't be used to better advantage now than investing it in South Texas land. There is no speculation in it. You will know so a year from now. I give you here a few good buys: 2933 acres of fine agricultural land, located in a proven oil district; price \$10 per acre; terms, 1000 acres improved stock farm between Austin and San Antonio; 200 acres tillable land; one mile river front; across the river is constructed a solid dam of rock masonry, giving 35 to 40 horsepower, which operates a large turbine wheel, a gin, press and grist mill, and sufficient water to irrigate at least 50 or 75 acres; a large lake is created by the dam, furnishing good fishing. The community is a good one. Nature has put its charm to this spot, and could be developed and made a real paradise for man on earth. The price placed on this desirable property—only \$16,500—is very low. This is the biggest bargain in Texas. Write me your wishes; state in your first letter what size tract you want, agricultural or ranch land; what capital you have to invest. I have improved farms, small and large, colonization tracts from 2000 to 25,000 acres, ranches of 5000 to 30,000 acres, at prices from \$4.50 to \$30 per acre. Suitable terms given. Act now. Write B. P. Hintze, 214 East 6th Street, Austin, Texas.

Classified Opportunities

FRUIT, FARM AND TRUCK LANDS

VIRGINIA
SHENANDOAH VALLEY
OF VIRGINIA.
Where Blue Grass
and Alfalfa Grow.
In the heart
of the Apple Belt.
Delightful climate.
Fertile Soil.
Write John M. Londeree,
Staunton, Va.

LARGE STOCK AND DAIRY FARM, 700
acres; 7 miles from Washington. Unusually
attractive proposition.
Potomac River properties, large and small.
Near to Washington estates and farms;
also country villas, some of which are for
rent, furnished or unfurnished, for the sum-
mer season.
F. L. Slaymaker, Alexandria, Va.

ATTORNEYS

RAYMOND M. HUDSON, Washington, D. C.
Attorney.
Practice before U. S. Supreme Court, U. S.
Court of Claims, D. C. Court of Appeals,
D. C. Supreme Court, Va. and Md. Courts.
Executive Departments, Congressional Com-
mittees, Federal Reserve Board, Federal
Trade Commission, Interstate Commerce
Commission. Cable "Rayhud."

INCORPORATING COMPANIES

CORPORATIONS ORGANIZED under the
broad, liberal and substantial laws of Dela-
ware. Minimum original and annual ex-
pense. Estimates cheerfully furnished. Write
for our revised DIGEST of the law.
CORPORATION COMPANY OF DELAWARE
Equitable Building, Wilmington, Del.

BUSINESS OPPORTUNITIES

WANTED—Partner with from six to eight
thousand to invest with like amount in a
lucrative manufacturing business. For par-
ticulars address Box 304, Anniston, Ala.

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attractive investment propositions, write
Investment Service Dept., Roger A. Jennings
& Co., Greensboro, N. C.

DOUBLE BAND MILL in North Carolina.
Up-to-date equipment. Ample standing tim-
ber behind it. Making money. Good reason
for selling. Green & Redd, Richmond, Va.

WANTED—Partner for soldering torch for
soldering and heating. It is better and
cheaper to manufacture. Good for mail or-
der business. H. H. Van Allen, 216 Peter
St., Atlanta, Ga.

LEGITIMATE opportunity to invest \$10,000.
Cattle feed plant. Wish to double machinery
and capacity. Needs an executive head with
good business ability. Have an expert as
superintendent at mill. Write Cattle Feed
Co., P. O. Box 1443, Atlanta.

EXPERIENCED banker will buy up to
\$10,000 stock in a bank and accept cash-
ship or active vice-presidency. Will organize
new bank of \$50,000 capital or more in good
town. A. C. Burnett, Cadiz, Ky.

WE WANT to get in touch with responsi-
ble real estate, insurance, bankers, brokers,
financial and investment agents who will
aid us in handling our clients quickly and
intelligently in your section. Write us your
facilities for handling business. Help us in
perfecting our service system and you help
yourself. Roger A. Jennings & Co., Financial
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INDIVIDUAL wishes to incorporate fac-
tory for additional capital from \$5000 to
\$15,000. The sale of output is guaranteed.
Location, Kentucky, in a thriving city. Active
manager with a thorough knowledge of oak
and lumber to take charge. Address No. 3041,
care Manufacturers Record, Balto., Md.

USE our Investment Service Dept. for
handling your business in the Southern and
Eastern States. Reliable personal represen-
tation affords you confidential and efficient
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FOR SALE—One-half undivided interest in
20 acres in industrial addition on North
Broadway in the city of Ada; my interest
15 acres. L. H. Koll, 123 East Tenth street,
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FOR SALE—Up-to-date planing mill, with
machinery in first-class condition, on rail-
road siding, and doing business of \$225,000
annually. Desirable, prompt-paying lot of
customers go with it. Reason for selling,
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business. P. O. Box 506, Buffalo, N. Y.

BUSINESS OPPORTUNITIES

OPPORTUNITY for owners of pine timber
lands. For Sale—Complete set nail-peg-stave
machinery, nearly new. While clearing land
a broker will make steady contract for out-
put. Write Cooperage Company, P. O. Box
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PAYING MANUFACTURING BUSINESS
has splendid proposition for one with \$5000.
Unable to fill orders account lack of capital.
Particulars immediately. P. O. Box 21, Bal-
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FOR SALE—\$15,000, our plant and equip-
ment making cupboards and wardrobes un-
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right man. Two acres land, brick and frame
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freight depot. Electric current cheap; plenty
labor; no labor troubles. Formerly operated
as chair factory. Good reasons for selling.
Continental Chair Mfg. Co., Mebane, N. C.

METAL STAMPING manufacturers, I have
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attached to any window, regardless of size
or construction, using present shade without
alteration (attach in two positions). Con-
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tance in schools, hotels, offices, hospitals,
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The above includes improvements of present
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nish detailed working drawings. Will con-
sider royalty contract or organization of
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36-FT. CRUISING LAUNCH, 15 H. P. en-
gine with reverse gear; complete equipment;
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Inquiries Invited.

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sites suiting your requirements on the Penn-
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SHIPBUILDING SITES,
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We invite prospective shipbuilders to in-
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BALTIMORE FACTORY AND TERMINAL
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both by water and rail for domestic and for-
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IN BALTIMORE.
Wm. Martien & Co.,
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FOR SALE—Factory site, 204-foot siding on
N. & C. & St. L. R. R. and running back 276
feet to T. C. R. R., connecting I. C. R. R.
This site formerly occupied by the Enterprise
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FOR SALE at a bargain, large plot of land
situated on railroad and within city limits.
It is an ideal location for a factory or
lumber yard. For further information apply to
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FOUNDRY AND MACHINE SHOP

WELL-ESTABLISHED and best shop in
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FOR SALE—Foundry and machine shop;
main foundry building, 180x80 ft., fitted up
with travelling cranes and everything neces-
sary in an up-to-date foundry; 500-ft. rail-
road siding. For further information apply to
J. H. Gill, Raleigh, N. C.

FOR SALE—A foundry and machine shop
property, doing a good mine and mill supply
business with fine opportunity to enlarge.
Located at the terminal of four divisions of
the Baltimore & Ohio Railroad Co. in cen-
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ROLLER FLOUR MILL

FOR SALE—To settle an estate, 30-barrel
roller flour mill, with 200-bushel burr corn
mill; good water-power; machinery and
equipment in good shape; good trade in
flour, meal and foodstuffs; excellent neigh-
borhood. About 140 acres good land. G. C.
Stone, Hurt, Va.

IRON, BRONZE AND WIRE WORK

FOR SALE—Iron, bronze and wire works;
plant running full time on good-paying or-
ders; needs experienced manager and some
new capital. Address W. E. McClamrock,
V. Prentiss, Jackson, Tenn.

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STONE CRUSHING PLANT

FOR SALE—Complete, well-equipped stone-
crushing plant in granite quarry, located on
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road siding to bins. Quantity of stone un-
limited. Splendid market for product. Own-
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For further information, terms, etc., apply
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CREAMERY

TWO-STORY CREAMERY BUILDING,
brick and concrete, equipped for manu-
facturing 1000 lbs. butter and 600 gallons lee-
cream, with all modern machinery. Cold
storage, cork insulation, etc. Total cost of
\$18,000. Now complete and ready for business
to encourage the dairying of this vicinity,
as mentioned in the January issue. M. K.
Pearce, Prop., Bogalusa, La.

ICE PLANT

ICE PLANT FOR SALE—A 10-ton ice
plant in a W. Va. town of 1500 for sale
cheap; good reasons for selling. For particu-
lars address P. R. Davis, R. F. D. No. 2,
Sharpsburg, Md.

SITUATIONS WANTED

I OFFER my services to any shipyard
building ships to help win the war. Can do
you good in your timber and lumber depart-
ment as buyer, inspector, hauling or manu-
facturing. P. O. address, Cherry Tree, Pa.
Wire R. D. Tonkin, Andrews, N. C.

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AN OPPORTUNITY FOR YOU TO SHARE
IN LATIN-AMERICAN TRADE.—The writer
of this advertisement formerly resided in
Mexico; is familiar with Central and South
American trade requirements. Experienced
in automobiles, accessories, iron and steel
products. To limited number manufacturers
offer representation through a corps of resi-
dent agents in Latin America, supplemented
by personal selling trips semi-annually.
Commission basis. Write for details quickly.
Box 84, Sta. "A," Chattanooga, Tenn.

MEN WANTED

IF ACTUALLY QUALIFIED for salary
between \$2500 and \$25,000, communicate with
undersigned, who will negotiate strictly con-
fidential preliminaries for such positions;
executive, administrative, technical, profes-
sional; all lines. Not an employment agency;
undersigned acts in direct confidential ca-
pacity, not jeopardizing present connections.
Established 1910. Send name and address
only for explanatory details. R. W. Bixby,
El Niagara Square, Buffalo, N. Y.

WANTED—SALESMEN—I want 50 men
to sell sanitary well bucket and curbing com-
bined; commission and royalty. You get \$5
each sale. Box 245, Gadsden, Ala.

WANTED—To communicate with two in-
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State experience, giving references. Reply
P. O. Box 526, Charleston, S. C.

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Adding machines, calculating machines,
duplicating machines, rotary mimeographs,
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FOR SALE—Keg stave mill outfit com-
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FOR SALE—30,000 lbs. ½ by 1½ black angle
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FOR SALE—SECOND-HAND PUMPING
PLANT—24" Worthington single-suction cen-
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PROPOSALS

BOND ISSUES

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Bids close May 19, 1917.

PROPOSALS FOR TRACK BOLTS, RIVETS, Sheet Copper, Sheet Brass, Grommets, Electric Cable, Magnet Wire, Resistance Testing Set, Spark Plugs, Storage Batteries, Dry Cells, Motor-driven Planer, Drill Press, Water-closets, Pipe Bends, Anvils, Axes, Saw Blades, Hoes, Stocks and Dies, Vises, Files, Planes, Buckets, Manila Rope, Fire Hose, Ring Packing, Canvas, Binders' Board, Carbon Paper, Lime, Foundry Clay, Fire Brick, and Lumber. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. May 19, 1917, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (No. 1141) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La.; and Fort Mason, San Francisco, Cal.; also from the United States Engineer Offices in the principal cities throughout the United States. EARL I. BROWN, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

Bids close May 16, 1917.

PROPOSALS for Millwork, Steel Cable, Valves, Wire Glass, Bicarbonate of Soda, Alcohol, Pine Tar Oil, Sperm Oil, Lacquer, Shellac, White Lead, Metallic Zinc, Zinc Oxide, and Paints. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. May 16, 1917, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (No. 1143) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City, and 614 Whitney-Central Building, New Orleans, La.; also from the U. S. Engineer Offices in the principal cities throughout the United States. EARL I. BROWN, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

Bids close May 22, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., April 23, 1917. Sealed proposals will be opened in this office at 3 P. M. May 22, 1917, for a women's New Toilet-room, etc., in the United States Courthouse and Postoffice, Helena, Arkansas, in accordance with the specification and drawings, copies of which may be had at this office or at the office of the Custodian, Helena, Arkansas, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 1, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., April 21, 1917. Sealed proposals will be opened in this office at 3 P. M. June 1, 1917, for the construction of the United States postoffice at Altus, Okla. Drawings and specifications may be obtained from the custodian of the site at Altus, Okla., or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close May 29, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., April 18, 1917. Sealed proposals will be opened in this office at 3 P. M. May 29, 1917, for the construction complete of the United States postoffice at Berwick, Pa. Drawings and specifications may be obtained from the custodian of site at Berwick, Pa., or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 6, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., April 25, 1917. Sealed proposals will be opened in this office at 3 P. M. June 6, 1917, for the construction, complete, of the United States Postoffice at Orange, Texas. Drawings and specifications may be obtained from the custodian of site at Orange, Texas, or at this office, in the discretion of the Acting Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 8, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., April 30, 1917. Sealed proposals will be opened in this office at 3 P. M. June 8, 1917, for the construction of the United States postoffice at Denton, Tex. Drawings and specifications may be obtained from the custodian of the site at Denton, Tex., or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 4, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., April 25, 1917. Sealed proposals will be opened in this office at 3 P. M. June 4, 1917, for the construction complete of the United States postoffice at Sanford, Fla. Drawings and specifications may be obtained from the custodian of site at Sanford, Fla., or at this office, in the discretion of the Acting Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

PROPOSAL ADVERTISING INFORMATION

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THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—25 cents per line per insertion.

Bids close June 1, 1917.

TREASURY DEPARTMENT, Bureau of Engraving and Printing, Washington, D. C., April 16, 1917. Sealed proposals will be received at this Bureau until 2 P. M. Friday, June 1, 1917, to furnish during the fiscal year beginning July 1, 1917, paper to be used in printing postage stamps and internal revenue stamps. Award will be made only to bona fide manufacturers of paper. The right is reserved to reject any or all bids or parts of bids. Blank forms, with specifications for proposals, will be furnished intending bidders on application to JOSEPH E. RALPH, Director of Bureau of Engraving and Printing.

Bids close May 23, 1917.

PROPOSALS FOR COAL. U. S. Engineer's Office, Montgomery, Ala. Sealed proposals for furnishing about 4000 tons of bituminous coal will be received at this office until 2 P. M. May 23, 1917, and then opened. Information on application.

Bids close May 14, 1917.

U. S. ENGINEER OFFICE, Baltimore, Md. Sealed proposals for dredging in Broad Creek River, Del., will be received here until 1 P. M. May 14, 1917, and then opened. Information on application.

Bids close May 4, 1917.

U. S. ENGINEER OFFICE, Baltimore, Md. Sealed proposals for dredging in Elk River, Md., will be received here until 1 P. M. May 4, 1917, and then opened. Information on application.

Bids close May 14, 1917.

U. S. ENGINEER OFFICE, Baltimore, Md. Sealed proposals for dredging in Chabonne Harbor and Traskin Creek, Md., will be received here until 1 P. M. May 14, 1917, and then opened. Information on application.

Bids close May 14, 1917.

\$80,000 5% Notes

On Monday, May 14, 1917, sealed bids will be received and opened by the City Commissioners at the City Hall in Lakeland, Fla., for Eighty Thousand Dollars in Street-Improvement Notes of the City of Lakeland, to be issued in 16 notes of Five Thousand Dollars each, to mature in 6 months from date, bearing 5 per cent. interest, payable in New York. This issue of legal obligations of the City of Lakeland is authorized by special Act of the Florida Legislature, now in session, and is to be refunded by bond issue at the completion of paving contract now under way. Any and all bids may be rejected. Five-Hundred-Dollar certified check required to accompany all bids.

This April 12, 1917.
JOHN F. COX,
Mayor and Chairman Finance Committee.

Bids close May 7, 1917.

\$500,000 5½% Bonds

Bridge Junction, Ark., April 4, 1917. Sealed proposals in duplicate for the purchase of Five Hundred Thousand (\$500,000) Dollars of 30-50-year five and one-half (5½%) per cent. bonds of the St. Francis Levee District of Arkansas, as authorized by the General Assembly of the State of Arkansas, will be received at the office up until noon Monday, May 7, 1917, and then publicly opened.

The Board of Directors of the said District reserves the right to reject any and all bids or to waive any informalities in said bids. Each bid must be accompanied by a certified check of two (2%) per cent. of the amount bid.

Full information may be received from the Secretary-Treasurer, Bridge Junction, Arkansas.

H. D. TOMLINSON,
President Board of Directors
St. Francis Levee District.
EUGENE WILLIAMS,
Secretary-Treasurer.

Bids close May 21, 1917.

\$25,000 6% Bonds

HYDE COUNTY, NORTH CAROLINA.
NOTICE OF SALE OF INDEBTEDNESS
AND IMPROVEMENT BONDS.

The Board of Commissioners of Hyde County, North Carolina, will receive sealed bids at their office in Swan Quarter until 12 o'clock noon Monday, May 21, 1917, for the purchase of \$25,000 6 per cent. indebtedness and improvement bonds, with coupons attached for interest, payable annually. Bonds are to be dated March 1, 1917, and will be issued in denominations of \$1000 each. The first bond will be due March 1, 1920, and one will be due each year thereafter until all of the bonds are paid.

All bids to be addressed to Board of County Commissioners, care of Leslie E. Jones, Swan Quarter, N. C., and shall provide for the payment of accrued interest from date of the bonds to date of their delivery, and must be accompanied by a certified check on some reputable bank for \$200, payable to the order of the Treasurer of Hyde County. Bidders shall state the amount charged for lithographing bonds.

The Board of Commissioners reserve the right to reject any and all bids, and no bid for less than par and accrued interest will be considered.

For further information apply to Leslie E. Jones, County Attorney, Swan Quarter, N. C.

By order of the Board of Commissioners
WALTER C. HARRIS,
Chairman.

By LESLIE E. JONES,
Attorney to Board of Commissioners.

Bids close May 22, 1917.

\$125,000 Highway Bonds

The Highway Commission of Union Township, Union County, South Carolina, offer for sale \$125,000 Union Township Bonds for constructing public highways in said township in denominations of \$1000 each. Bonds are forty-year coupon bonds, with the right of redemption after twenty years. Interest is payable semi-annually in New York City July the first and January the first. Bonds will be dated July the first, 1917. Make bids at par value of the bonds and lowest rate of interest.

All bids must be accompanied by a certified check of \$1000 and addressed to either A. G. Kennedy, Chairman, or E. W. Stone, Secretary of the above-named Commission, and must reach them on or before noon of the 22d day of May, 1917, at which time said bids will be opened at Union, S. C. The said Board reserves the right to accept or decline any or all bids submitted.

This 25th day of April, 1917.
(Signed) A. G. KENNEDY,
Chairman of Commission.
E. W. STONE,
Secretary of Commission.

Bids close May 7, 1917, at 1 o'clock P. M.

\$150,000 5% Bonds

Dyer County invites bids for the purchase of \$150,000 negotiable general liability bonds of the County of Dyer, State of Tennessee, in denominations of \$1000 each, dated April 1, 1917, and payable serially, beginning April 1, 1922, with final maturity April 1, 1937. Interest payable semi-annually April 1 and October 1 at the office of the County Trustee at Dyersburg in lawful money of the United States of America.

All bidders for said bonds shall accompany their bids with certified check in the sum of \$1000, payable to Dyer County, Tenn.

The bond trustees reserve the right to reject any and all bids.

Dated at Dyersburg, Tenn., this the 6th day of April, 1917.

D. L. ANDERSON,
County Judge.
J. R. MENZIES,
EARL JOHNSON,
Committee.

Bids close May 24, 1917.

\$75,000 5% Bonds

TEN-YEAR CITY PAVING DISTRICT
BONDS.

Sealed proposals will be received by Walter H. Woodson, Mayor of the City of Salisbury, N. C., up to 8 o'clock P. M. May 24, 1917, for approximately \$75,000 city bonds, bearing interest at 5 per cent., interest payable semi-annually (the interest and one-tenth of the principal payable annually at the National Park Bank, New York); bonds to be dated June 1, 1917, and will mature at the rate of one-tenth of the amount yearly for ten years and will be for one thousand dollars (\$1000) each.

Certified check for \$500 will be required with each bid to be applied to purchase in the event of acceptance.

The City of Salisbury reserves the right to reject any and all bids. Bids will be opened by the Mayor and Board of Aldermen at 8 o'clock P. M. May 24, 1917.

For further information address J. D. Norwood, Chairman of Finance Committee, Salisbury, N. C., or the undersigned.

WALTER H. WOODSON, Mayor,
Salisbury, N. C.
T. H. VANDERFORD, JR.,
City Attorney,
Salisbury, N. C.

Bids close May 14, 1917.

\$30,000 5% Bonds

The City of Opelika, Ala., will receive bids on \$30,000 of school bonds, bearing five per cent. (5%) interest, interest payable annually at the Hanover National Bank, New York, N. Y.

Bids to be accompanied with a certified check for two per cent. (2%) of the bonds to be issued.

Bids will be opened on May 14, 1917, at 10 o'clock A. M.

The City reserves the right to reject any or all bids.

J. G. PALMER,
Mayor.

Bids close May 7, 1917.

\$60,000 Drainage Bonds

Sealed bids will be received at the office of the County Judge of Dyer County at Dyersburg, Tennessee, until 1 o'clock P. M. May 7, 1917, for the purchase of \$60,000 of twenty-year serial drainage bonds. Bids desired on 5½% and 6% bonds separately, interest payable semi-annually. Place of payment optional with purchaser. All bids must be accompanied with \$500 certified check. The right is reserved to reject any and all bids.

BOGOTA DRAINAGE DISTRICT.
By E. RICE,
Secy. Board of Directors.

Bids close May 9, 1917.

Bridge Construction

Sealed proposals will be received by the Board of County Commissioners of Iredell and Catawba Counties, North Carolina, at Statesville, N. C., until 11 A. M. of Wednesday, May 9, 1917, for the construction of the Island Ford Bridge across the Catawba River twelve miles from Statesville, N. C. Plans and specifications on file with Register of Deeds at Newton, N. C., and Statesville, N. C.

Bids must be made on blank forms furnished by the Boards.

\$200 certified check to be deposited with bids as guarantee for entering into contract.

Right reserved to reject any or all bids.
J. E. BOYD,
Chairman County Commissioners
of Iredell County.

Bids close May 25, 1917.

Road and Bridge Construction

Sealed proposals will be received by the Board of County Commissioners of Putnam County, Florida, at Palatka, Florida, until noon of Friday, May 25, 1917, for furnishing material, equipment and labor for the following work:

Approximately twenty-nine miles of road paving in Putnam County, Florida (Vitrified Brick, Asphalt, Asphaltic Concrete, Asphalt Block and Concrete Pavements will be considered), complete with necessary curb and pipe drainage; two reinforced concrete bridges and five reinforced concrete culverts. The bidder may make proposal on one or all classes of pavements specified.

Bids must be made on blank forms furnished by the Board. Plans and specifications can be seen at the office of the County Clerk at Palatka, Florida, and specifications can be obtained by writing the Clerk and paying \$5 to cover the actual cost of printing; said \$5 to be returned when the specifications are returned in good condition with a bona fide bid on the work.

This April 16, 1917.
C. E. ROWTON,
Chairman.
R. J. HANCOCK,
Clerk.
FRANK J. FAGAN,
Engineer.

Bids close May 22, 1917.

Highway Bridge Construction

Camden, S. C.
Notice is hereby given that the County Commissioners of Kershaw County, South Carolina, will receive sealed bids for the construction of a highway bridge over Wateree River. The work will be let under three separate contracts: one for the erected timber trestle approaches, about 2650 feet long; one for the concrete foundations, about 1800 cubic yards, and one for the steel bridge, which consists of two 200-foot spans and the taking down of and re-erecting one 130-foot span now standing on another site. Bids will be received until 3 P. M. May 22, 1917, in the County Supervisor's office in the Courthouse in the city of Camden, South Carolina.

Bidders must use the prepared forms accompanying specifications. Certified checks in the amounts shown on forms, approximating 10 per cent. of the contract price, must accompany bids. Acceptable surety bonds for approximately 50 per cent. of contract price will be required. Payment will be cash for 90 per cent. of monthly estimates. Plans and specifications may be seen at the office of the Supervisor of Kershaw County, in Camden, South Carolina, and copies may be obtained from Frink & Pinner, consulting engineers, Royster Building, Norfolk, Va., by depositing a \$5 check payable to the engineers, to be held until said plans and specifications are returned. The county reserves the right to reject any and all bids.

M. C. WEST, Supervisor,
Kershaw County, Camden, S. C.
FRINK & PINNER,
Consulting Engineers,
Royster Bldg., Norfolk, Va.

Bids close May 10, 1917.

Superstructure of Bridge, Grading and Paving About 4 1/2 Miles of County Road

Sealed bids will be received by Cabell County Court until 1 P. M. Thursday, May 10, 1917, for building, constructing and completing of iron and steel superstructure, concrete work for floors and brick pavement over Four-Pole Creek, near Huntington, Cabell County, W. Va., all work to be done according to plans and specifications on file in office of Oliver & Maupin Engineering Co., Court House, Huntington, W. Va., and bidders may submit plans and specifications for reinforced concrete bridge on said date to the Court, Court to have right to examine and inspect each of said plans and specifications.

Right reserved to reject any and all bids.
\$500 certified check to be deposited with bid as guarantee for entering into contract.
Also for the grading, paving and building with No. 1 vitrified brick, to be selected by the Court, with combination concrete base and curb, about four and a half miles of Four-Pole and James River Turnpike—using the C. & O. Ry. Co. right of way—from a corporation line of Milton to Cabell-Pettam county line, according to plans and specifications on file in the office of Oliver & Maupin Engineering Co., Court House, Huntington, W. Va.

\$500 certified check to be deposited with bid as guarantee for entering into contract.
Court reserves right to reject any and all bids.
All bids to be filed with R. S. Douthat, County Clerk, at Huntington, W. Va.
COUNTY COURT OF CABELL COUNTY,
WEST VIRGINIA,
By D. I. SMITH, President.

Bids close May 15, 1917.

State Highway and Bridge

STATE OF MARYLAND.
STATE ROADS COMMISSION.
NOTICE TO CONTRACTORS.

Sealed proposals for building one section of State Highway and one bridge as follows:
Contract No. Co-11, CAROLINE COUNTY.—One section of road through Federalburg, about 1.18 miles in length. (Concrete).

BRIDGE.

Contract No. A-13-Br., ALLEGANY COUNTY.—One reinforced concrete arch over 15-Mile Creek on the National Pike, consisting of one clear span of 66 feet, with arcade approaches and earth fills. Length of concrete structure over all 116 feet.
Will be received by the State Roads Commission at its offices, 601 Garrett Building, Baltimore, Maryland, until 12 M. on the 15th day of May, 1917, at which time and place they will be publicly opened and read.

Bids must be made upon the blank form contained in the book of specifications. Specifications and plans will be furnished by the Commission upon application and cash payment of \$1, as hereafter no charges will be permitted.

No bid will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.
The Commission reserves the right to reject any and all bids.

By order of the State Roads Commission this 26th day of April, 1917.

FRANK H. ZOUBEK,
Chairman.
CLYDE H. WILSON,
Secretary.

Bids close May 26, 1917.

Highway Construction

Sealed proposals, on blank forms attached to specifications, will be received by the Board of County Commissioners of Polk County, Florida, at Bartow, Fla., until 10 A. M. May 26, 1917, at which time they will be opened and read publicly, for furnishing material, labor and equipment for the improvement and construction of highways in the Special Road and Bridge District of Winter Haven, Fla.

Bids will be asked on approximately 302,000 square yards of Asphalt Road Paving with the necessary pipe drainage, culverts, etc., and nine (9) reinforced concrete bridges, each having a span of approximately twenty feet.

Each bid is to be accompanied by a certified check made payable to the Board of County Commissioners, Polk County, Florida, for at least two thousand (\$2000) dollars, which entitles the contractor to bid on either the general paving as a division, or on the construction of bridges as a division, or on all classes of the work.

The right is reserved to reject any and all bids.

Plans and specifications may be seen at the office of the County Clerk, Bartow, Florida, or at the engineer's office, Winter Haven, Fla., after April 25, 1917, and copies of the specifications may be obtained from receipt of \$1, which will be returned when the specifications are returned in good order with a bona-fide bid on the work.

The contract will be awarded as soon as practicable after the opening of proposals.
J. A. JOHNSON, Clerk,
Bartow, Fla.

G. WALLENWEBER, Engineer,
Winter Haven, Fla.

Bids close May 26, 1917.

Highway Improvement

The Board of Supervisors of Road District No. Eight of Rapides Parish, Louisiana, will receive sealed bids up to 12 noon of Saturday, May 26, 1917, for the grading, bridging, culverts and drains; for the hauling, placing and rolling of the gravel surface; for the gravel, sand, stone, reinforcement and bridge material required for the construction of Units One, Two and Three of the Highways to be improved in Road District No. Eight, aggregating approximately 15 miles, all in accordance with certain plans and specifications on file in the office of Ira W. Sylvester, Engineer, Alexandria, Louisiana.

Bids will be accompanied by certified check in the amount of 5 per cent. of the price bid, made payable to J. W. Texada, President Board of Supervisors Road District No. Eight.

The right to reject any and all bids is reserved.

All bids will be opened and considered in the Police Jury Room of the Parish Courthouse, Alexandria, Louisiana, at 12 noon of Saturday, May the 26th, 1917.

For further information address
J. W. TEXADA, Pres.,
Board of Supervisors Road Dist. No. 8,
Boyce, Louisiana.
IRA W. SYLVESTER, Eng.,
Alexandria, Louisiana.

Bids close May 9, 1917.

Permanent Highways

Sealed separate bids will be received by the Boards of Highway Commissioners for Districts Nos. 2 and 3, Sunflower County, Miss., up until 2 P. M. Wednesday, May 9, 1917, for the construction of permanent highways, consisting of concrete pavement, gravel and asphalt surface roads, also proper drainage; \$200,000 available.

Plans and specifications for both districts now on file at the office of the Chancery Clerk. Same will be sent upon request, accompanied by check for \$250, payable to Stein & Harbert, Indianola, Miss., Engineers District No. 3; H. S. Gove, Moorhead, Miss., Engineer District No. 2.

The right is reserved to reject any and all bids.

A certified check for \$2000 must accompany bid on each district, same to be made payable to the Highway Commissioner of that district.

JOHN W. JOHNSON,
Chancery Clerk.

Bids close May 7, 1917.

Street Paving

Edenton, N. C.
Sealed proposals will be received by the Mayor and Council of Edenton, N. C., at the office of the Town Clerk, for paving certain streets, until 8 o'clock P. M. May 7, 1917, at which time they will be opened and read publicly. The work includes the furnishing of all labor, material and machinery and equipment of every kind necessary to construct approximately twenty-five thousand (25,000) square yards of Asphalt, Concrete or Brick Pavements, with the necessary curbing, storm drainage, etc.

Each bid must be accompanied by a certified check on a bank satisfactory to the Mayor and Council for One Thousand (\$1000) Dollars, drawn to the order of Town Clerk. Specifications may be obtained from the Engineers or from the Town Clerk for a fee of \$2. Plans and profiles will be furnished at actual cost of printing.

The right is reserved to reject any or all bids.

TOWN OF EDENTON, N. C.
E. R. CONGER, Mayor.
J. R. McMULLAN, Town Clerk.

THE J. B. McCRAHY COMPANY,
Engineers,
Third National Bank Bldg.,
Atlanta, Ga.

Bids close May 15, 1917.

Water Supply

Under the direction and by the authority of the Board of Commissioners of the City of Oklahoma City, Oklahoma, sealed bids will be received, one copy at the office of C. F. Semmelbeck, City Clerk, and one copy with J. E. Freney, City Auditor, up to 1:30 o'clock P. M. May 15, 1917, and will be opened and considered by the Board of Commissioners in the Commissioners' Chamber in the City Hall Building at 3:5 West Main street in the City of Oklahoma City at 2 o'clock P. M. May 15, 1917, for the following described work:

Section "K"—Excavating and Concreting Clear Well.

All labor performed and material furnished for the above section shall be performed in accordance with the plans and specifications now on file in the office of the City Clerk.

Each bidder shall accompany his bid by a sworn statement in writing that the bidder has not, directly or indirectly, entered into any agreement, express or implied, with any other bidder or bidders having for its object the controlling of the price or amount of such bid or the parceling or farming out of any bidder or bidders or other persons of any part of the contract or any part of the subject-matter of the bid or of the profits therefrom.

The bid filed with the City Clerk must be accompanied by a certified check in the sum of 3 per cent. of the amount bid, to be forfeited to the city in case the successful bidder fails to enter into a contract and give the required bond within the required time. Contractor will be required to give a bond in the sum of twenty (20%) per cent. of the contract price for the faithful performance of said work and the holding of the city harmless from any and all damages which might occur.

The Board of Commissioners reserve the right to reject any or all bids.

(Seal.) C. F. SEMMELBECK,
City Clerk.

Bids close May 25, 1917.

Water-Works and Sewers

Sealed proposals, addressed to Peter J. Hagen, Town Clerk, Mt. Ranier, Md., will be received until 2:30 P. M. May 25, 1917, for furnishing all materials, tools and labor and constructing complete approximately ten miles of sanitary sewers, 8 inches to 12 inches in diameter; approximately ten miles of water mains, 4 inches to 8 inches in diameter; water-works pumping station and steel tank and tower. Bids will be received for the entire work or for any portion thereof.

Plans and specifications may be seen at the Town Clerk's office, Mt. Ranier, Md., or at the office of Harry Stevens, Consulting Engineer, Union Trust Building, Washington, D. C., or may be obtained from the Engineer for \$5 per set, the actual cost of printing.

Right is reserved to reject any or all bids. For the information of prospective bidders, the town has the necessary funds for the above work deposited in the bank.

FRED E. WEBER, Mayor.
HARRY STEVENS, Engineer.

Bids close May 10, 1917.

Water-Works and Sewers

Tennille, Ga.
Sealed bids will be received at the City Clerk's office at Tennille, Ga., until 8 P. M. May 10 for the construction of the following work: First—About four miles of sanitary sewers, principally 8" pipe, with manholes and flush tanks; contractor to furnish all materials. Second—Hauling and laying about 3600 feet of 6" and 8" water mains and about two miles 1 1/2" to 2" service pipe; contractor to furnish all materials except pipe, which has been purchased. Certified check for 5 per cent. of bid required.

Plans may be examined at the Clerk's office at Tennille, Ga., or at the office of the Engineer in Atlanta. Specifications furnished after April 25.

IVerson LORD,
Mayor.
ARTHUR PEW, Engineer,
500-1 Forsyth Theater Bldg.,
Atlanta, Ga.

Bids close May 29, 1917.

Sewerage Construction

Leland, Miss.
Sealed bids, addressed to the Town Clerk of Leland, Miss., and endorsed "Proposal for Sewerage System," will be received until 5 P. M. May 29, 1917, at which time they will be publicly opened and read.

Cashier's check for Two Thousand Five Hundred Dollars (\$2500) on a Leland (Miss.) bank, payable to the Treasurer of the Town of Leland, Miss.

The work consists of furnishing and laying approximately four miles of 8" and one mile of 12" vitrified sewer pipe, 55 manholes, 18 flush tanks, one sewage-pumping station and sewage-disposal works.

The Board reserves the right to reject any or all bids. Eighty-five per cent. monthly estimates in cash.

Plans and specification may be seen at the office of the Town Clerk.

The work will be let as a whole, and bids for materials and machinery will be received only through general contractors.

Sets of plans and specification may be obtained from the Engineer upon a deposit of \$15; specification only, \$5 deposit; any one plan, \$5. All deposits to be refunded upon return of plans and specification not later than June 8, 1917. The bid form will be found bound within the specification. A general bid will be considered a return of the specification, but subbidders must return plans and specification to the Engineer.

J. H. O'QUINN,
Town Clerk.
FRANK L. WILCOX, Engineer,
Syndicate Trust Bldg.,
St. Louis, Mo.

Bids close May 22, 1917.

Water-Works and Sewers

Bids will be received on labor and material for Sewer System and Water Extension at Bishopville, S. C., until 2 P. M. May 22. Details appearing in next issue. Information can be obtained from the Engineers.
W. S. JAMES,
City Clerk.

Engineers:
THE J. B. McCRAHY COMPANY,
Atlanta, Georgia.

Bids close May 15, 1917.

Church and Auditorium

Bids will be received to May 15, 1917, to erect brick church building, with auditorium and 10 classrooms. Art glass, news and other furniture separate contracts. Provision already made to pay all bills when due. Drawings and specifications in hands of undersigned. Right reserved to accept or reject any or all bids.

W. C. CULLER, Chm.,
North, S. C.

Selection of Designing Architect

GREENVILLE CITY HOSPITAL.

On May 14, 1917, the Board of Governors of Greenville City Hospital, Greenville, S. C., will confer with architects for the purpose of selecting a Designing Architect for the new hospital building.

This will not be a competition. However, the Board will require that the chosen architect shall have had definite experience in the design of hospital propositions which have been carried through successfully, and must submit acceptable evidences of his success and experience and present office organization.

Architects desiring a meeting of the Board on the appointed day will please communicate this intention to the Chairman or the Supervising Architect, from whom additional information may be obtained.

CHARLES F. HARD, Chairman;
W. A. MERRITT, Secretary,
Board of Governors.

H. OLIN JONES,
Consulting and Supervising Architect.
Bids close May 24, 1917.

Sealed Proposals for Construction and Equipment of Building for the Federal Reserve Bank, Atlanta, Ga.

TO BE ERRECTED ON THE LOT KNOWN AS NO. 104 MARIETTA STREET IN THE CITY OF ATLANTA.

1st. Sealed proposals, addressed to M. B. Wellborn, Chairman of the Board, Federal Reserve Bank, Atlanta, Ga., will be received at 10 o'clock A. M. May 24, 1917, for the furnishing of the labor and material required for general contract work and each of the mechanical trades—heating, plumbing, wiring, lighting fixtures, vault and other equipment—for a building covering an area of approximately 70x38 feet. Said building to consist of basement, main floor and second or mezzanine floor, all of which is more minutely described by the plans and specifications on file in the office of the Architect, A. Ten Eyck Brown, 607-10 Forsyth Building, Atlanta. All bids to be endorsed on the cover, "Proposal for (giving trade or trades) on Federal Reserve Bank Building."
2d. Copies of drawings and specifications may be obtained from the above-named Architect upon a deposit of a certified check for ten (\$10) dollars, made out to him, for each set desired. One-half of said check to be returned to the maker on the return of the plans and specifications in good condition.

3d. All bids must be submitted on special proposal blanks furnished by the Architect, or they will not be considered. Each proposal must be accompanied by a certified check of two (2%) per cent. of the amount of proposal, payable to the Chairman of the Board, as a guarantee that the bidder will enter into a contract according to the plans and specifications and execute a bond for 50% of the amount of the contract within ten (10) days after notification of the acceptance of his bid, failing which said certified check will become forfeited to the Federal Reserve Bank of Atlanta as liquidated damages.

4th. On the signing of the contracts and approval of bonds checks of the unsuccessful bidders will be returned to their respective makers.

5th. Payments upon the work will be made monthly for eighty-five (85%) per cent. of the value of material and labor furnished and acceptable; balance of fifteen (15%) per cent. will be payable on completion of the contract in conformity with the plans and specifications.

6th. The Building Committee of the Federal Reserve Bank of Atlanta reserves the right to reject any or all proposals.
(Signed) M. B. WELLBORN,
Chairman of the Board,
Federal Reserve Bank of Atlanta.

Bids close May 8, 1917.

Steel Convict Cage

Clearwater, Fla.
Wanted to purchase a Steel Convict Cage to accommodate about twelve men. Bids to be received second Tuesday in May, 1917.
J. N. BROWN,
Clerk to Board.

Machinery, Equipment and Supplies —WANTED—

WANTED MOTORS and DYNAMOS

We pay highest spot cash prices
Write at once what you have for sale

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We Also Buy Belting and Machinery

208 Centre St., N. Y. C.

WANTED BELT-DRIVEN PUMP

One 8x10 or slightly larger Duplex Horizontal Belt-Driven Power Pump of standard make. Must be guaranteed to be in good working condition. Write or wire exact dimensions, make and price.

Ponce De Leon Ice Mfg. Co.
Atlanta, Ga.

WANTED 300 DRY KILN TRUCKS

6 feet or 6 feet 6 inches long, with 6-inch or 8-inch wheels, roller bearing. Address

GRISMORE-HYMAN COMPANY
Memphis, Tenn

Wanted—Macadam Roller
Contractor in immediate need of Road Roller. Desires figures on 10-ton roller.

Address

"URGENT," care Manufacturers Record

BUILDING MATERIALS

M. E. RANDOLPH
Dante, Va.

wants catalogues, samples and prices on general building material.

WANTED

One No. 5 or No. 6 Gates or No. 5 or No. 6 McCully Crusher. One 30-inch-gauge Dinky, two 100 H. P. Firebox Boilers with stacks, 4500 ft. 3-inch, 2000 ft. 2-inch Wrought-Iron Pipe. Address

CAMBRO-CLINTON MINING CO.
209 N. 21st Street Birmingham, Ala.

Locomotive Crane Wanted

Ten-ton Steam-Driven Locomotive Crane with Grab Bucket. Must be in first-class condition. Advise

W. STEWART
Newport News & Hampton Ry., Gas & Elec. Co.
Hampton, Va.

WANTED AT ONCE Relaying Rails

40 tons of 24 to 30 lb. and 3 or 4 tons of 12 lb. Relaying Rails.

Box 40, CAMBRIA, VA.

WANTED

72x20 Return Tubular Boiler, or larger, complete with fittings, including stack. Must be in first-class condition and stand insurance inspection for 135 lbs. pressure. Quote price and advise how soon shipment can be made after inspection.

RODEN COAL CO.
MARVEL, ALA.

HACKLEY MORRISON

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Machinery

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RICHMOND, VA.

FOR SALE

1 80 K. W. D. C. Generator, G. E. make, class 6-40-300; no load, 115 volts; full load, 125 volts; 320 amp.; 300 R. P. M., D. C. on one base to 9"x17"x12" Harrisburg tandem compound 4-valve engine.
1 150 H. P. and 1 200 H. P. Heine Boiler.
2 100 H. P. Scotch Marine Boilers.
1 15-ton Locomotive Crane.
1 35 and 2 20 H. P. D. C. Motors.
1 15 H. P. A. C. Motor.
1 Haulage Engine, 20x18, double cylinder.
1 Lambert 3-line Ground Skidder with overhead rig.
1 Case 10-ton 40 H. P. Road Roller and Tractor.
1 2-yd. Ransom Mixer.

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